

Guide to Scheduled Chemicals

Order No. 129P



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This pamphlet is part of a series about the Chemical Weapons Convention (CWC) and its potential security impact prepared by the Defense Treaty Inspection Readiness Program (DTIRP) to increase **Readiness Through Awareness** within the United States Government and government contractor community. Additional copies of this pamphlet, as well as other cost-free information about arms control treaties and agreements potentially affecting your facility and related security countermeasures, are also available from DTIRP Outreach Program personnel.

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INTRODUCTION

The purpose of this guide is to provide a quick reference to the Chemical Weapons Convention (CWC) scheduled chemicals. It also addresses provisions related to activities not prohibited by the Convention. The information is intended to assist site commanders, program managers, site/facility managers, facility security officers, and site assistance teams in site preparation for “routine” and challenge inspections conducted under the Convention.

The guide is divided into four sections. The first section contains a synopsis of provisions governing scheduled and unscheduled chemicals subject to verification activity under the Convention with thresholds for reporting and inspection. The second section lists the scheduled chemicals as found in the Convention. The third section provides a more comprehensive, cross-referenced, alphabetical listing of scheduled chemicals and unscheduled precursors to the scheduled chemicals where information is available. This section includes some, but not all, of the compounds from the families of chemicals depicted in Schedules 1 and 2. It also provides the applicable Chemical Abstracts Service (CAS) registry number and, where available, precursors and catalysts used in production. The final section lists the primary scheduled and associated chemicals by CAS number.

QUICK REFERENCE TO VERIFICATION OF ACTIVITIES NOT PROHIBITED UNDER THE CWC

SCHEDULE 1 PROVISIONS

Monitored Activity—Production, storage, transfer, and consumption for research, medical, pharmaceutical, or protective purposes at a single, small-scale facility

- Facility approved by State Party
- Annual production not exceeding 1 metric ton
- Annual declaration of past and projected activities
- Required initial inspection and facility agreement (not later than Entry into Force (EIF) + 180 days)
- Inspection number and duration based on risk
- Inspection notification: not less than 36 hours before arrival at the facility (84 hours for initial inspections)

Monitored Activity—Production (including methods) storage, transfer, and consumption for protective purposes outside the single, small-scale facility

- One facility approved by State Party
- Aggregate production not exceeding 10 kg per year
- Annual declaration of past and projected activities
- Required initial inspection and facility agreement (not later than EIF + 180 days)
- Inspection number and duration based on risk
- Inspection notification: not less than 36 hours before arrival at the facility (84 hours for initial inspections)

Monitored Activity—Production, storage, transfer, and consumption for research, medical, or pharmaceutical purposes outside the single, small-scale facility

- Facilities approved by State Party
- Aggregate production in excess of 100 g, but not exceeding 10 kg per year per facility
- Annual declaration of past and projected activities
- Required initial inspection and facility agreement (not later than EIF + 180 days)
- Inspection number and duration based on risk
- Inspection notification: not less than 36 hours before arrival at the facility (84 hours for initial inspections)

SCHEDULE 2 PROVISIONS

Monitored Activity—Production, storage, processing, consumption, import, and export of Schedule 2 chemicals

- Reporting threshold for plant sites—One or more plant(s) which produced, processed, or consumed during any of the previous 3 years or is anticipated to produce, process, or consume in the next year:
 - 1 kg of 3-Quinuclidinyl benzilate (BZ, QNB)
 - 100 kg of any other Schedule 2, Part A chemical
 - 1 metric ton of any Schedule 2, Part B chemical
- Inspection threshold for plants—One or more plant(s) which produced, processed, or consumed during any of the previous 3 years or is anticipated to produce, process, or consume in the next year:
 - 10 kg of 3-Quinuclidinyl benzilate
 - 1 metric ton of any other Schedule 2, Part A chemical
 - 10 metric tons of a Schedule 2, Part B chemical
- Initial inspection within 3 years of EIF
- Facility agreement required (90 days after initial inspection)
- Inspection notification: not less than 48 hours before arrival at plant site (84 hours for initial inspections)
- Inspection number: no more than two per year
- Inspection duration: not to exceed 96 hours

SCHEDULE 3 PROVISIONS

Monitored Activity—Production of Schedule 3 chemicals

- Reporting threshold—one or more plants which produced during the previous year or are anticipated to produce in the next year:
 - 30 metric tons of a Schedule 3 chemical
- Inspection threshold—plant sites which produced during the previous year or are anticipated to produce in the next year:
 - 200 metric tons aggregate of a declared Schedule 3 chemical
- No initial inspection
- Facility agreement not required
- Inspection notification: not less than 120 hours before arrival at plant site
- Inspection number: no more than two per year
- Inspection duration: not to exceed 24 hours

OTHER CHEMICAL PRODUCTION FACILITIES

Monitored Activity—Production by synthesis of unscheduled discrete organic chemicals

- Reporting threshold:
 - Plant sites which produced 200 metric tons of unscheduled discrete organic chemicals during the previous year, or
 - Plant sites comprising one or more plants which produced during the previous year 30 metric tons of an unscheduled discrete organic chemical containing phosphorous, sulfur, or fluorine
- Inspection threshold:
 - Plant sites which produced 200 metric tons of unscheduled discrete organic chemicals during the previous year, or
 - Plant sites comprising one or more plants which produced during the previous year 200 metric tons of an unscheduled discrete organic chemical containing phosphorous, sulfur, or fluorine
- No initial inspection
- Facility agreement not required Inspections start fourth year after EIF
- Inspection notification: not less than 120 hours before arrival at plant site
- Inspection number: no more than two per year
- Inspection duration: not to exceed 24 hours

LIST OF SCHEDULED CHEMICALS FROM THE CONVENTION

SCHEDULE 1 CHEMICALS/PRECURSORS CAS Number

A. Toxic Chemicals:

- | | | |
|-----|---|--|
| (1) | O-Alkyl ($\geq C_{10}$, incl. cycloalkyl) alkyl
(Me, Et, n-Pr or i-Pr)-phosphonofluoridates
Sarin: O-Isopropyl methylphosphonofluoridate
Soman: O-Pinacolyl methylphosphonofluoridate | 107-44-8
96-64-0 |
| (2) | O-Alkyl ($\geq C$, incl. cycloalkyl) N,N-dialkyl
(Me, Et, n-Pr or i-Pr) phosphoramidocyanidates
Tabun: O-Ethyl-N,N-dimethylphosphoramidocyanidate | 77-81-6 |
| (3) | O-Alkyl (H or $\geq C_{10}$, incl. cycloalkyl) S-2-dialkyl
(Me, Et, n-Pr or i-Pr)-aminoethyl alkyl
Me, Et, n-Pr or i-Pr phosphonothiolates and
corresponding alkylated or protonated salts
VX: O-Ethyl S-2-diisopropylaminoethyl
methyl phosphonothiolate | 50782-69-9 |
| (4) | Sulfur Mustards:
2-Chloroethylchloromethylsulfide
Mustard gas: Bis(2-chloroethyl)sulfide
Bis(2-chloroethylthio)methane
Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane
1,3-Bis(2-chloroethylthio)-n-propane
1,4-Bis(2-chloroethylthio)-n-butane
1,5-Bis(2-chloroethylthio)-n-pentane
Bis(2-chloroethylthiomethyl)ether
O-Mustard: Bis(2-chloroethylthioethyl)ether | 2625-76-5
505-60-2
63869-13-6
3563-36-8
63905-10-2
142868-93-7
142868-94-8
63918-90-1
63918-89-8 |
| (5) | Lewisites:
Lewisite 1: 2-Chlorovinylidichloroarsine
Lewisite 2: Bis(2-chlorovinyl)chloroarsine
Lewisite 3: Tris(2-chlorovinyl)arsine | 541-25-3
40334-69-8
40334-70-1 |
| (6) | Nitrogen Mustards:
HN 1: Bis(2-chloroethyl)ethylamine
HN 2: Bis(2-chloroethyl)methylamine
HN 3: Tris(2-chloroethyl)amine | 538-07-8
51-75-2
555-77-1 |
| (7) | Saxitoxin | 35523-89-8 |
| (8) | Ricin | 9009-86-3 |

B. Precursors:

- | | | |
|------|--|------------------------|
| (9) | Alkyl(Me, Et, n-Pr or i-Pr)phosphonyldifluorides
DF: Methylphosphonyldifluoride | 676-99-3 |
| (10) | O-Alkyl(H or $\geq C_{10}$, incl. cycloalkyl) O-2-dialkyl
(Me, Et, n-Pr or i-Pr)-aminoethyl alkyl
(Me, Et, n-Pr or i-Pr)phosphonites and corresponding
alkylated or protonated salts
QL: O-Ethyl O-2-diisopropylaminoethyl
methylphosphonite | 57856-11-8 |
| (11) | Chlorosarin: O-Isopropyl methylphosphonochloridate
Chlorosoman: O-Pinacolyl methylphosphonochloridate | 1445-76-7
7040-57-5 |

SCHEDULE 2 CHEMICALS/PRECURSORS CAS Number

A. Toxic Chemicals:

- | | | |
|-----|---|-----------|
| (1) | Amiton: O,O-Diethyl S-[2-(diethylamino)ethyl]
phosphorothiolate and corresponding alkylated
or protonated salts | 78-53-5 |
| (2) | PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene | 382-21-8 |
| (3) | BZ: 3-Quinuclidinyl benzilate | 6581-06-2 |

B. Precursors:

- | | | |
|------|---|----------------------------------|
| (4) | Chemicals, except for those listed in Schedule 1,
containing a phosphorus atom to which is bonded one
methyl, ethyl, or propyl (normal or iso) group but no
further carbon atoms
Methylphosphonyl dichloride
Dimethylmethylphosphonate
Exemption: Fonofos: O-Ethyl S-phenyl
ethylphosphonothiolothionate | 676-97-1
756-79-6
944-22-9 |
| (5) | N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic
dihalides | |
| (6) | Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl
(Me, Et, n-Pr or i-Pr)-phosphoramidates | |
| (7) | Arsenic trichloride | 7784-34-1 |
| (8) | 2,2-Diphenyl-2-hydroxyacetic acid | 76-93-7 |
| (9) | Quinuclidine-3-ol | 1619-34-7 |
| (10) | N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-
chlorides and corresponding protonated salts | |

(11)	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts Exemptions: N,N-Dimethylaminoethanol and corresponding protonated salts N,N-Diethylaminoethanol and corresponding protonated salts	108-01-0 100-37-8
(12)	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts	
(13)	Thiodiglycol: Bis(2-hydroxyethyl)sulfide	111-48-8
(14)	Pinacolyl alcohol: 3,3-Dimethylbutane-2-ol	464-07-3

SCHEDULE 3 CHEMICALS/PRECURSORS

CAS Number

A. Toxic Chemicals:

(1)	Phosgene: Carbonyl dichloride	75-44-5
(2)	Cyanogen chloride	506-77-4
(3)	Hydrogen cyanide	74-90-8
(4)	Chloropicrin: Trichloronitromethane	76-06-2

B. Precursors:

(5)	Phosphorus oxychloride	10025-87-3
(6)	Phosphorus trichloride	7719-12-2
(7)	Phosphorus pentachloride	10026-13-8
(8)	Trimethyl phosphite	121-45-9
(9)	Triethyl phosphite	122-52-1
(10)	Dimethyl phosphite	868-85-9
(11)	Diethyl phosphite	762-04-9
(12)	Sulfur monochloride	10025-67-9
(13)	Sulfur dichloride	10545-99-0
(14)	Thionyl chloride	7719-09-7
(15)	Ethyl-diethanolamine	139-87-7
(16)	Methyl-diethanolamine	105-59-9
(17)	Triethanolamine	102-71-6

CWC CHEMICALS

Chemical: (.beta.-chloroethyl)diisopropylamine hydrochloride

See: 2-(N,N-Diisopropylamino) ethyl chloride hydrochloride

Chemical: (2-Chloro-ethyl)-dipropyl-amine hydrochloride

See: (N,N-Dipropylamino) ethyl chloride hydrochloride

Chemical: (2-Chloroethyl) diisopropylamine hydrochloride

See: 2-(N,N-Diisopropylamino) ethyl chloride hydrochloride

Chemical: (2-Chloroethyl)-dipropylamine

See: 2-(N,N-Dipropylamino) ethyl chloride

Chemical: (2-Chloroethyl)diethylamine

See: 2-(N,N-Diethylamino)ethyl chloride

Chemical: (N,N-diethylamino) ethyl chloride hydrochloride

Synonym: 2-Chlorotriethylamine hydrochloride
.beta.-(Diethylamino) ethyl chloride hydrochloride
Triethylamine, 2-chloro-, hydrochloride
Schedule: 2B

CAS No: 869-24-9

Use: Scheduled precursor to VE and VM

Chemical: (N,N-Diisopropylamino) ethanol

See: N,N-diisopropyl-(beta)-aminoethanol

Chemical: (N,N-Dimethylamino) ethyl chloride hydrochloride

Synonym: 2-Dimethylaminic ethyl chloride hydrochloride
Dimethylaminoethyl chloride hydrochloride
Schedule: 2B

CAS No: 4584-46-7

Use: Scheduled precursor to V1

Chemical: (N,N-Dipropylamino) ethyl chloride hydrochloride

Synonym: 1-Propanamine, N-(2-chloroethyl)-N-propyl-hydrochloride
N-(2-Chloroethyl)-N-Propyl-1-propanamine hydrochloride
(2-Chloro-ethyl)-dipropyl-amine hydrochloride

Schedule: 2B

CAS No: 4535-86-8

Use: Scheduled precursor to V2

Chemical: .beta,.beta'-Bis(2-hydroxyethylthio) ethyl ether

See: Bis(2-hydroxyethylthioethyl)ether

Chemical: .beta.-(Diethylamino) ethyl chloride hydrochloride

See: (N,N-diethylamino) ethyl chloride hydrochloride

Chemical: .beta.-(Dimethylamino) ethyl chloride

See: 2-(N,N-Dimethylamino) ethyl chloride

Chemical: .beta.-mercaptoethanol

See: 2-Hydroxyethanethiol

Chemical: [3aS-(3.alpha.,4.alpha.10aR)]2,6, Diamino-4-[[aminocarbonyl)oxy]

See: Saxitoxin

Chemical: 1,1'-(oxybis(methylene))bis(2-chloroethane)

See: Bis(2-chloroethylthiomethyl)ether

Chemical: 1,1'-Thiobisethene

See: Divinyl sulfide

Chemical: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene

See: PFIB

Chemical: 1,1-[methylenebis(thio)]bis[2-chloroethane]

See: Bis(2-chloroethylthio)methane

Chemical: 1,2,2-trimethylpropyl ester

See: O-Pinacolyl isopropyl phosphonofluoridate

Chemical: 1,2-bis(2-chloroethylthio)ethane

See: Sesquimustard

Chemical: 1,2-Bis(2-hydroxyethylthio)ethane

CAS No: 524-43-8

Use: Unscheduled precursor to Sesquimustard

Chemical: 1,2-Dimenaptoethane

See: 1,2-Ethanedithiol

Chemical: 1,2-Dimethyldiphosphonic acid

Synonym: Methyl phosphonate, anhydride
Pyromix
Phosphonic acid, methyl-, anhydride
Diphosphonic acid, dimethyl
Methylphosphonic anhydride

Schedule: 2B

CAS No: 1070-90-2

Use: Scheduled precursor to DC, DIMP, and DF

Chemical: 1,2-Epoxyethane

See: Ethylene oxide

Chemical: 1,2-Ethanedithiol

Synonym: 1,2-Dimenaptoethane
Dithioglycol
1,2-Ethylenedithiol
 α -Ethylene dimercaptan

CAS No: 540-63-6

Use: Unscheduled precursor to Sesquimustard

Chemical: 1,2-Ethylenedithiol

See: 1,2-Ethanedithiol

Chemical: 1,3,5-Trinitrophenol Picric acid

See: Picric acid

Chemical: 1,3-Bis(2-chloroethylthio)-n-propane

Schedule: 1A

CAS No: 63905-10-2

Synthesis: 1,3-Bis(2-hydroxyethylthio)-n-propane and Thionyl chloride

Use: Toxic chemical

Chemical: 1,3-Bis(2-hydroxyethylthio)-n-propane

CAS No: 16260-48-3

Use: Unscheduled precursor to 1,3-Bis(2-chloroethylthio)-n-propane

Chemical: 1,3-Dichloropropane

Synonym: Propane, 1,3-dichloro
Trimethylene dichloride

CAS No: 142-28-9

Use: Unscheduled precursor to HD

Chemical: 1,4-Bis(2-chloroethylthio)-n-butane

Schedule: 1A

CAS No: 142868-93-7

Synthesis: 1,3-bis(2-hydroxyethylthio)butane and Thionyl chloride

Use: Toxic chemical

Chemical: 1,5-Bis(2-chloroethylthio)-n-pentane

Synonym: DCES 5

Pentane, 1,5-bis[(2-chloroethyl)thio]

Schedule: 1A

CAS No: 142868-94-8

Synthesis: 1,5-bis(2-hydroxyethylthio)-n-pentane and T

Use: Toxic chemical

Chemical: 1,5-Dichloro-n-pentane

Synonym: Pentane, 1,5-dichloro
1,5-Dichloropentane

CAS No: 628-76-2

Use: Unscheduled precursor to
DCES 5

Chemical: 1,5-Dichloropentane

See: 1,5-Dichloro-n-pentane

Chemical: 1-Aminoethane

See: Ethylamine

**Chemical: 1-Azabicyclo [2.2.2]
octan-3-one**

See: 3-Quinuclidinone

**Chemical: 1-
Azabicyclo[2,2,2]octan-3-one
hydrochloride**

See: 3-Quinuclidinone
hydrochloride

Chemical: 1-Butanamine

See: Tributylamine

**Chemical: 1-Carboethoxymethyl-4-
carboethoxypiperidine**

Synonym: 1-Piperidine, acetic acid,
4-(ethoxycarbonyl)- ethyl ester
Ethyl 4-(ethoxycarbonyl)-1-
piperidine acetic acid
1-Piperidineacetic acid, 4-carboxy-
diethyl ester

CAS No: 1838-39-7

Use: Unscheduled precursor to 3-
Quinuclidinone hydrochloride

**Chemical: 1-Chloro-2-(2-
chloroethyl)disulfanyl) ethane**

See: Bis(2-chloroethyl) disulfide

**Chemical: 1-Chloro-2-(2-
chloroethylthio) ethane**

See: Bis(2-chloroethyl)sulfide

Chemical: 1-Chloroethylene

See: Vinyl chloride

**Chemical: 1-Hydroxy-2,4,6-
trinitrobenzene**

See: Picric acid

Chemical: 1-Methyl ethanol

See: Isopropanol

**Chemical: 1-Piperidineacetic acid,
4-carboxy-, diethyl ester**

See: 1-Carboethoxymethyl-4-
carboethoxypiperidine

**Chemical: 1-Piperidine, acetic
acid,
4-(ethoxycarbonyl)-ethyl ester**

See: 1-Carboethoxymethyl-4-
carboethoxypiperidine

**Chemical: 1-Propanamine, N-(2-
Chloroethyl)-N-propyl**

See: 2-(N,N-Dipropylamino) ethyl
chloride

**Chemical: 1-Propanamine, N-(2-
chloroethyl)-N-propyl-
hydrochloride**

See: (N,N-Dipropylamino) ethyl
chloride hydrochloride

**Chemical: 1-Propene, 1,1,2,3,3,3-
hexafluoro-**

See: Perfluoropropylene

Chemical: 1070

See: HN3

Chemical: 1130

See: HN2

Chemical: 1149

See: HN1

**Chemical: 2,2'-
Dichloroethyl)disulfide**

See: Bis(2-chloroethyl) disulfide

**Chemical: 2,2'-(oxybis(2,1-
ethanedylthio)) bis ethanol**

See: Bis(2-
hydroxyethylthio)ether

**Chemical: 2,2'-
[methylenedithio]diethanol**

See: Bis(2-
hydroxyethylthio)methane

Chemical: 2,2'-Iminodiethanol

See: Diethanolamine

Chemical: 2,2,2-Nitrilotriethanol

See: Triethanolamine

**Chemical:
2,2,2-Trichloroethylene**

See: HN3

**Chemical: 2,2-
(ethylimino)diethanol**

See: Ethyldiethanolamine

**Chemical: 2,2-
(methylimino)diethanol**

See: Methyl-diethanolamine

**Chemical: 2,2-
Dihydroxydiethylsulfide**

See: Bis(2-hydroxyethyl)sulfide

Chemical: 2,2-Dimethylbutan-3-ol

See: Pinacolyl alcohol

Chemical: 2,2-Dimethylbutane

Synonym: Butane, 2,2-dimethyl
CAS No: 75-83-2

Use: Unscheduled precursor to
Pinacolyl alcohol

Chemical: 2,2-Diphenyl-2-hydroxyacetic acid

Synonym: Benzilic acid
Benzeneacetic acid
hydroxy-.alpha.-phenyl-

Schedule: 2B

CAS No: 76-93-7

Synthesis: Benzoin, nitric acid, ethanol, NaOH, and water

Use: Scheduled precursor to BZ

Chemical: 2,3-Dimethyl-2,3-butanediol

Synonym: Pinacol
2,3-Dimethyl-2,3-dihydroxybutane
Pinacone

Tetramethylethylene glycol

CAS No: 76-09-5

Use: Unscheduled precursor to Pinacolone

Chemical: 2,3-Dimethyl-2,3-dihydroxybutane

See: 2,3-Dimethyl-2,3-butanediol

Chemical: 2,4,6-Trinitrophenol

See: Picric acid

Chemical: 2-(Bis(1-methylethyl)amino) ethanol

See: N,N-Diisopropyl-(beta)-aminoethanol

Chemical: 2-(Bis(1-methylethyl)amino) ethyl ethyl ester

See: O-Ethyl,2-diisopropyl aminoethyl methylphosphonate

Chemical: 2-(Dipropylamino)-ethanol

See: 2-(N,N-Dipropylamino) ethanol

Chemical: 2-(N,N,-Diisopropylamino) ethyl chloride

See: N,N-diisopropyl-(beta)-aminoethyl chloride

Chemical: 2-(N,N-Diethylamino) ethyl chloride

Synonym: (2-Chloroethyl)diethylamine
Ethanamine, 2-chloro-N,N-diethyl

Schedule: 2B

CAS No: 100-35-6

Use: Scheduled precursor to VE and VM

Chemical: 2-(N,N-Diisopropylamino) ethyl chloride hydrochloride

Synonym: (2-Chloroethyl) diisopropylamine hydrochloride
(.beta.-chloroethyl)diisopropylamine hydrochloride

Schedule: 2B

CAS No: 4261-68-1

Use: Scheduled precursor to VX, VS, V4, and V5

Chemical: 2-(N,N-Dimethylamino) ethyl chloride

Synonym: .beta.-(Dimethylamino) ethyl chloride

Chloro (dimethylamino) ethane

Dimethylaminoethyl chloride

Dimethyl (2-chloroethyl) amine

Schedule: 2B

CAS No: 107-99-3

Use: Scheduled precursor to V1

Chemical: 2-(N,N-Dipropylamino) ethanol

Synonym: Ethanol, 2-(dipropylamino)-
2-(Dipropylamino)-ethanol
Dipropylethanolamine

Schedule: 2B

CAS No: 3238-75-3

Use: Scheduled precursor to V2

Chemical: 2-(N,N-Dipropylamino) ethyl chloride

Synonym: (2-Chloroethyl)-dipropylamine
1-Propanamine, N-(2-Chloroethyl)-N-propyl

N-(2-chloroethyl)-N-propyl-1-propanamine

Schedule: 2B

CAS No: 36716-60-6

Use: Scheduled precursor to V2

Chemical: 2-2-Dichlorothrethylamine

See: HN1

Chemical: 2-Butanesulfonic acid, 3,3-dimethyl-

See: 3,3-Diemethylbutane-2-sulfonic acid

Chemical: 2-Butanone,3,3-dimethyl

See: Pinacolone

Chemical: 2-Butene,2-methyl-

See: 2-Methyl-2-butane

Chemical: 2-Chloro-2-methyl propane

See: t-Butyl chloride

Chemical: 2-Chloro-N,N-bis(2-chloroethyl) ethanamine hydrochloride

See: Tris(2-chloroethyl) amine hydrochloride

Chemical: 2-Chloroethanol

Synonym: 2-Hydroxyethyl chloride

Ethanol, 2-chloro-

Ethyl chlorohydrin

Ethylene chlorhydrin

CAS No: 107-07-3

Use: Unscheduled precursor to Thiodiglycol

Chemical: 2-Chloroethanyldichloroarsine

See: Lewisite 1

Chemical: 2-Chloroethyl chloromethyl triether

See: 2-Chloroethylchloromethylsulfide

Chemical: 2-Chloroethylchloromethylsulfide

Synonym: 2-chloroethylthiochloromethane
2-Chloroethyl chloromethyl triether

Schedule: 1A

CAS No: 2625-76-5

Synthesis: 2-hydroxyethanethiol and methylene chloride

Use: Toxic chemical

Chemical: 2-Chloroethylthiochloromethane

See: 2-Chloroethylchloromethylsulfide

Chemical: 2-Chlorotriethylamine hydrochloride

See: (N,N-diethylamino) ethyl chloride hydrochloride

Chemical: 2-Chlorovinyltrichlorosilane

Synonym: Silane, trichloro (1-chloroethenyl)-
Trichloro (1-chloroethenyl) silane
Silane, trichloro (1-chlorovinyl)-

CAS No: 2441-27-2

Use: Unscheduled precursor to L1-3

Chemical: 2-Chlorovinylidichloroarsine

See: Lewisite 1

Chemical: 2-Dimethylaminic ethyl chloride hydrochloride

See: (N,N-Dimethylamino) ethyl chloride hydrochloride

Chemical: 2-Hydroxy-1,2-diphenylethanone

See: Benzoin

Chemical: 2-Hydroxy-1-ethanethiol

See: 2-hydroxyethanethiol

Chemical: 2-Hydroxyethanethiol

Synonym: Ethanol, 2-mercapto-
2-Hydroxy-1-ethanethiol
.beta.-mercaptoethanol

CAS No: 60-24-2

Use: Unscheduled precursor to Bis(2-chloroethylthiomethyl)ether and Sesquimustard

Chemical: 2-Hydroxyethyl chloride

See: 2-Chloroethanol

Chemical: 2-Hydroxypropane

See: Isopropanol

Chemical: 2-Methyl-2-butane

Synonym: 2-Butane,2-methyl-
Amylene

Trimethylethylene

CAS No: 513-35-9

Use: Unscheduled precursor to Pinacolone

Chemical: 2-Propanamine, N-(1-Methylethyl)-

See: Diisopropylamine

Chemical: 2-Propanamine, N-(2-chloroethyl)-N-(1-methylethyl)-

See: N,N-diisopropyl-(beta)-aminoethyl chloride

Chemical: 2-Propanol

See: Isopropanol

Chemical: 2-Propyl alcohol

See: Isopropanol

Chemical: 3,3-Dimethylbutane-2-sulfonic acid

Synonym: 2-Butanesulfonic acid,
3,3-dimethyl-
3,3-Dimethyl-2-butanesulfonic acid

CAS No: 135469-38-4

Use: Unscheduled precursor to Pinacolyl alcohol

Chemical: 3,3-Dimethyl-2-butanesulfonic acid

See: 3,3-Dimethylbutane-2-sulfonic acid

Chemical: 3,3-Dimethyl-2-butanone

See: Pinacolone

Chemical: 3,3-Dimethylbutane-2-ol

See: Pinacolyl alcohol

Chemical: 3-Benziloyl-1-azabicyclo[2.2.2] octane

See: BZ

Chemical: 3-Hydroxy-1-methylpiperidine

CAS No: 3554-74-3

Use: Unscheduled precursor to BZ

Chemical: 3-Hydroxy-azabicyclo[2.2.2]octane

See: Quinuclidine-3-ol

Chemical: 3-Oxyquinuclidine

See: 3-Quinuclidinone

Chemical: 3-Penten-2-one,4-methyl

See: Mesityl oxide

Chemical: 3-Q azabicyclo[2.2.2]-3-oxetanol

See: Quinuclidine-3-ol

Chemical: 3-Quinuclidinol

See: Quinuclidine-3-ol

Chemical: 3-Quinuclidinone

Synonym: 1-Azabicyclo [2.2.2] octan-3-one

3-Oxyquinuclidine

3-Quinuclidone

Quinuclidone

CAS No: 3731-38-2

Use: Unscheduled precursor to BZ

**Chemical:
3-Quinuclidinone hydrochloride**

Synonym: 1-Azabicyclo[2,2,2]octan-3-one hydrochloride

CAS No: 1193-65-3

Use: Unscheduled precursor to Quinuclidine-3-ol

**Chemical:
3-Quinuclidinyl benzilate**

See: BZ

Chemical: 3-Quinuclidone

See: 3-Quinuclidinone

Chemical: 3M Etching liquid

See: Phosphoric acid

**Chemical:
4-Methyl-3-penten-2-one**

See: Mesityl oxide

Chemical: 4-Methylpyridine

Synonym: 4-Picoline

Pyridine, 4-methyl

CAS No: 109-89-4

Use: Unscheduled precursor to Isonicotinic acid

Chemical: 4-Picoline

See: 4-Methylpyridine

**Chemical:
4-Pyridinecarboxylic acid**

See: Isonicotinic acid

Chemical: 4-Pyridinecarboxylic acid, ethyl ester,

See: Ethyl isonicotinate

**Chemical:
a-Ethylene dimercaptan**

See: 1,2-Ethanedithiol

Chemical: AC

See: Hydrogen cyanide

Chemical: Acetene

See: Ethylene

Chemical: Acetylene

Synonym: Ethine

Ethyne

Narcylen

Vinylene

CAS No: 74-86-2

Use: Unscheduled precursor to Lewisite 1

Chemical: Aetznatron

See: Sodium hydroxide

Chemical: Agri-sul

See: Sulfur

Chemical: Alcare hand degermer

See: Ethanol

Chemical: Alcohol

See: Ethanol

Chemical: Alcohol anhydrous

See: Ethanol

Chemical: Algrain

See: Ethanol

Chemical: Aluminum chloride

Synonym: Aluminum trichloride

CAS No: 7446-70-0

Use: Reaction catalyst in production of Lewisite 1; unscheduled precursor for "Perren-Kinnear" complex

Chemical: Aluminum lithium hydride

See: Lithium aluminum hydride

Chemical: Aluminum trichloride

See: Aluminum chloride

Chemical: Amino methane

See: Methylamine

Chemical: Amiton

Synonym: S-(2-diethylamino) ethyl,phosphoro-thioic acid O,O-Diethyl ester

DSDP

ENT 24

Inferno

Metramac

Tetram

R-5,150

Rhodia-6200

Schedule: 2A

CAS No: 78-53-5

Synthesis: 2-(N,Ndiethylamino) ethanol and O,Odiethyl phosphorothionochloridate

Catalyst: NaH, benzene, ethyl acetate, sodium sulfate, oxalic acid, ethanol, or ethyl ether

Use: Toxic chemical

Chemical: Ammonia

Synonym: Nitrosil
R 717

Spirit of Hartshorn
Ammonia gas
Ammonia 14 N
Refrigerant R717

CAS No: 7664-41-7

Use: Unscheduled precursor to
Triethanolamine; reaction catalyst in
production of Diethyl
methylphosphonite

Chemical: Ammonia 14 N

See: Ammonia

Chemical: Ammonia gas

See: Ammonia

Chemical: Amylene

See: 2-Methyl-2-butane

Chemical: Anhydrol

See: Ethanol

**Chemical: Anhydrous
hydrochloric acid**

See: Hydrochloric acid (HCl)

**Chemical: Anhydrous
hydrofluoric acid**

See: Hydrogen fluoride

Chemical: Antisal 2b

See: Hydrogen fluoride

Chemical: Arsenic trichloride

Synonym: Trichloroarsine
Butter of arsenic

Fuming liquid arsenic
Arsenous trichloride

Schedule: 2B

CAS No: 7784-34-1

Synthesis: 1) arsenic trioxide and
sulfur monochloride; 2) arsenic
trioxide and thionyl chloride; 3)
arsenic trioxide and hydrochloric
acid

Use: Scheduled precursor to
Lewisite 1

Chemical: Arsenic trioxide

CAS No: 1627-53-3

Use: Unscheduled precursor to
Arsenic trichloride

Chemical: Arsenous trichloride

See: Arsenic trichloride

Chemical: Artic

See: Methyl chloride

Chemical: Ascarite

See: Sodium hydroxide

Chemical: Asulfa-supra

See: Sulfur

Chemical: Atomic sulfur

See: Sulfur

Chemical: BCME

See: Bis(chloromethyl)ether

**Chemical: Benzeneacetic
acid, .alpha.-hydroxy-.alpha.-
phenyl-**

See: 2,2-Diphenyl-2-hydroxyacetic
acid

**Chemical: Benzenemethanol,
alpha-diphenyl-**

See: Triphenylcarbinol

Chemical: Benzil

Synonym: Dibenzoyl

Bibenzoyl
Diphenylglyoxal
Ethanedione, diphenyl

CAS No: 134-81-6

Use: Unscheduled precursor to
Benzilic acid; degradati

Chemical: Benzilic acid

See: 2,2-Diphenyl-2-hydroxyacetic
acid

**Chemical: Benzilic acid, methyl
ester**

See: Methyl benzilate

Chemical: Benzoin

Synonym: Ethanone, 2-hydroxyl-
1,2-diphenyl

2-Hydroxy-1,2-diphenylethanone
Benzoylphenylcarbinol
Ethanone,2-hydroxy-1,2-diphenyl

CAS No: 119-53-9

Use: Unscheduled precursor to
Benzilic acid

Chemical: Benzoylphenylcarbinol

See: Benzoin

Chemical: Bertholite

See: Chlorine

**Chemical: beta-beta'-
Dihydroxydiethyl sulfide**

See: Bis(2-hydroxyethyl)sulfide

Chemical: BFV

See: Formaldehyde

Chemical: Bialeski's solution

See: Methanol

Chemical: Bibenzoyl

See: Benzil

**Chemical: Bicarburretted
hydrogen**

See: Ethylene

Chemical: Biogas

See: Methane

Chemical: Bis(2-[bis(1-methylethyl) amino] ethyl) ester

See: Bis(2-diisopropylamino ethyl) methylphosphonite

Chemical: Bis(2-diisopropylamino ethyl) methylphosphonite

Synonym: LT
Phosphonous acid, methyl-Bis(2-[bis(1-methylethyl) amino] ethyl) ester
Schedule: 2B
CAS No: 57856-12-9
Use: Scheduled precursor to VX

Chemical: Bis(1,2,2-trimethylpropyl) methyl phosphonate

See: O,O-Dipinacolyl methylphosphonate

Chemical: Bis(2-chloroethyl) disulfide

Synonym: 1-Chloro-2-(2-chloroethyl)disulfanyl) ethane
2,2'-Dichloroethyl)disulfide
Disulfide, bis(2-chloroethyl)
CAS No: 1002-41-1
Use: Byproduct of HD

Chemical: Bis(2-chloroethyl)ethylamine

See: HN1

Chemical: Bis(2-chloroethyl)methylamine

See: HN2

Chemical: Bis(2-chloroethyl)sulfide

Synonym: Mustard gas
H
HS
Yperite
Mustard Oil (M.O.)
D-Lost
Yellow Cross
Bis(2-chloroethyl)thioether
1-Chloro-2-(2-chloroethylthio) ethane
Schedule: 1A
CAS No: 505-60-2
Synthesis: 1) thiodiglycol and gaseous HCl; 2) sulfur monochloride and dry ethylene; 3) sulfur monochloride and pure ethylene; 4) sulfur dichloride in carbon tetrachloride and ethylene; 5) sulfur monochloride and ethylene saturated with alcohol
Use: Toxic chemical

Chemical: Bis(2-chloroethyl)thioether

See: Bis(2-chloroethyl)sulfide

Chemical: Bis(2-chloroethylthio)methane

Synonym: DCES 1
Ethane, 1,1'-(methylenebis(thio))bis(2-chloro-1,1-[methylenebis(thio)])bis[2-chloroethane]
Schedule: 1A
CAS No: 63869-13-6
Synthesis: Bis(2-hydroxyethylthio)methane and thionyl chloride
Use: Toxic chemical

Chemical: Bis(2-chloroethylthioethyl)ether

See: O-Mustard

Chemical: Bis(2-chloroethylthiomethyl)ether

Synonym: DCES MO
Ethane, 1,1'-(oxybis(methylenethio))bis(2-chloro-1,1'-(oxybis(methylene))bis(2-chloroethane)
Schedule: 1A
CAS No: 63918-90-1
Synthesis: 1) bis(2-hydroxyethylthioethyl)ether and thionyl chloride; 2) 2-hydroxyethanethiol and bis(chloromethyl)ether
Use: Toxic chemical

Chemical: Bis(2-chlorovinyl)chloroarsine

See: Lewisite 2

Chemical: Bis(2-hydroxyethyl)sulfide

Synonym: Thiodiglycol
Thiodiethylene glycol
2,2-Dihydroxydiethylsulfide
Glycine A
EA 1019
Tedegyl
beta-beta'-Dihydroxy-diethyl sulfide
Kromfax solvent
Schedule: 2B
CAS No: 111-48-8
Use: Scheduled precursor to Mustard gas, Sesquimustard, HT, T, and Q

Chemical: Bis(2-hydroxyethylthio)methane

Synonym: Bis[(2-hydroxyethyl)thio]methane
2,2'-[methylenedithio]diethanol
Ethanol, 2,2'-(methylenebis(thio))bis-
CAS No: 44860-68-6
Use: Unscheduled precursor to Bis(2-chloroethylthio)methane

Chemical: Bis(2-hydroxyethylthioethyl)ether

Synonym: .beta,.beta'-Bis(2-hydroxyethylthio) ethyl ether
2,2'-(oxybis(2,1-ethanedylthio)) bis ethanol
Ethanol,2,2'-(oxybis(2,1-ethanedylthio))bis
CAS No: 7426-02-0
Use: Unscheduled precursor to Bis(2-chloroethylthio)methane

Chemical: Bis(chloromethyl)ether

Synonym: Methane, oxybis(chloro-Oxybis(chloromethane)
BCME
Bis-CME
Chloromethyl ether
CAS No: 542-88-1
Use: Unscheduled precursor to Bis(2-chloroethylthiomethyl(ether))

Chemical: Bis-CME

See: Bis(chloromethyl)ether

Chemical: Bis[(2-hydroxyethyl)thio]methane

See: Bis(2-hydroxyethylthio)methane

Chemical: Bisulfoid

See: Sulfur

Chemical: Blausaeure

See: Hydrogen cyanide

Chemical: Blauwzuer

See: Hydrogen cyanide

Chemical: Blsyra

See: Hydrogen cyanide

Chemical: Borate, tetrahydro-, sodium

See: Sodium borohydride

Chemical: Bromine cyanide

See: Cyanogen bromide

Chemical: Bromine monocyanoide

See: Cyanogen bromide

Chemical: Bromocyan

See: Cyanogen bromide

Chemical: Bromophenylmagnesium

See: Phenyl magnesium bromide

Chemical: Brown no.1

See: Hydrogen cyanide

Chemical: Butane, 2,2-dimethyl

See: 2,2-Dimethylbutane

Chemical: Butter of arsenic

See: Arsenic trichloride

Chemical: BZ

Synonym: 3-quinuclidinyl benzilate
3-benziloyl-1-azabicyclo[2.2.2]octane

Schedule: 2A

CAS No: 6581-11-1

Synthesis: 3-quinuclidinol and benzilic acid

Catalyst: Sodium methylate

Use: Toxic chemical

Chemical: Campilit

See: Cyanogen bromide

Chemical: Carbinamine

See: Methylamine

Chemical: Carbinol

See: Methanol

Chemical: Carbon bisulfide

See: Carbon disulfide

Chemical: Carbon disulfide

Synonym: Carbon disulphide

Carbon bisulfide

Carbon sulfide

NCI-CO4591

Sulphuret of Carbon

CAS No: 75-15-0

Use: Stabilizer for HN2 and HN3

Chemical: Carbon disulphide

See: Carbon disulfide

Chemical: Carbon sulfide

See: Carbon disulfide

Chemical: Carbonic acid, disodium salt

See: Sodium carbonate

Chemical: Carbonyl dichloride

See: Phosgene

Chemical: Caustic soda

See: Sodium hydroxide

Chemical: Chemifluor

See: Sodium fluoride

Chemical: Chlorine

Synonym: Bertholite

Chlorine molecule

Chlorine molecule (Cl₂)

Diatomic chlorine

Dichlorine

Molecular chlorine

CAS No: 7782-50-5

Use: Unscheduled precursor to GB, GD, GF, and HD

Chemical: Chlorine cyanide

See: Cyanogen chloride

Chemical: Chlorine molecule

See: Chlorine

Chemical: Chlorine molecule (Cl₂)

See: Chlorine

Chemical: Chlorine sulfide

See: Sulfur dichloride

Chemical: Chloro (dimethylamino) ethane

See: 2-(N,N-Dimethylamino) ethyl chloride

Chemical: Chloro GD

See: Chlorosoman

Chemical: Chlorobis(2-chlorovinyl)arsine

See: Lewisite 2

Chemical: Chlorocyan

See: Cyanogen chloride

Chemical: Chlorocyanide

See: Cyanogen chloride

Chemical: Chlorocyanogen

See: Cyanogen chloride

Chemical: Chloroethene VCL

See: Vinyl chloride

Chemical: Chloroethylene

See: Vinyl chloride

Chemical: Chlorohydric acid

See: Hydrochloric acid (HCl)

Chemical: Chloromethane

See: Methyl chloride

Chemical: Chloromethyl ether

See: Bis(chloromethyl)ether

**Chemical:
Chlorophosphonothioic
acid O,O-diethyl ester**

See: O,O-Diethyl
phosphorothionochloridate

Chemical: Chloropicrin

Synonym: Trichloronitromethane
Nitrochloromethane

Nitrochloroform

Schedule: 3A

CAS No: 76-06-2

Synthesis: Picric acid (2,4,6-trinitrophenol) and calcium hypochlorite bleach or lime, bleach, stannic chloride

Use: Incapacitating agent; tear gas formulations

Chemical: Chlorosarin

Synonym: O-Isopropyl
methylphosphonochloridate

Schedule: 1B

CAS No: 1445-76-7

Synthesis: DIMP, O-O-diisopropyl
methylphosphonate

Use: Scheduled precursor to Sarin

Chemical: Chlorosoman

Synonym: O-Pinacolyl
methylphosphonochloridate
Chloro GD

Schedule: 1B

CAS No: 7040-57-5

Synthesis: methyl-phosphonic
dichloride and pinacol

Use: Scheduled precursor to
Soman

Chemical: Clocat F

See: Potassium fluoride

Chemical: Colamine

See: Ethanolamine

Chemical: Copper (II) chloride

See: Cupric chloride

**Chemical:
Copper chloride (CuCl₂)**

See: Cupric chloride

Chemical: Corrosive sublimate

See: Mercuric chloride

Chemical: Cosan 80

See: Sulfur

Chemical: Cupric chloride

Synonym: Copper (II) chloride

Copper chloride (CuCl₂)

CAS No: 7447-39-4

Use: Unscheduled precursor to L

Chemical: CV

See: O-Ethyl O-2-
Diisopropylaminoethyl
methylphosphonothionate

Chemical: Cyanide of sodium

See: Sodium cyanide

Chemical: Cyanogen bromide

Synonym: Cyanogen bromide
((CN)

BR)

Bromine cyanide

Bromine monocyanide

Bromocyan

Campilit

CAS No: 506-68-3

Use: Unscheduled precursor to
Tabun

**Chemical:
Cyanogen bromide ((CN) BR)**

See: Cyanogen bromide

Chemical: Cyanogen chloride

Synonym: Chlorocyan

Chlorocyanide

Chlorocyanogen

Chlorine cyanide

Schedule: 3A

CAS No: 506-77-4

Synthesis: 1) potassium-
zinc cyanide

complex and chlorine gas;

2) nitrogen and carbon

tetrachloride; 3) sodium cyanide

and chlorine; 4) hydrogen cyanide

and chlorine

Use: Toxic chemical

Chemical: Cyanohydrin

formaldehyde

See: Hydroxyacetone nitrile

Chemical: Cyanomethanol

See: Hydroxyacetone nitrile

Chemical: Cymag

See: Sodium cyanide

Chemical: Cynogran

See: Sodium cyanide

Chemical: D-Lost

See: Bis(2-chloroethyl)sulfide

Chemical: DC

See: Methylphosponyl dichloride

Chemical: DCES 1

See: Bis(2-chloroethylthio)methane

Chemical: DCES 5

See: 1,5-Bis(2-chloroethylthio)-
npentane

Chemical: DCES MO

See: Bis(2-
chloroethylthiomethyl)ether

Chemical: DDPNA

See: Diethyl N,N-dimethyl
phosphoramidate

Chemical: DEA

See: Diethanolamine

Chemical: Decon 4512

See: Phosphoric acid

Chemical: DEDMPNA

See: Diethyl N,N-dimethyl
phosphoramidate

Chemical: DEEP

See: Diethyl ethylphosphonate

Chemical: DEHP

See: Diethyl phosphite

Chemical: DEPCI

See: Diethylphosphorachloridite

Chemical: DF

See: Methylphosponyl difluoride

**Chemical:
Di-npropylphosphoramidic
dichloride**

See: N,N Dipropylphosphoramidic
dichloride

Chemical: Diatomic chlorine

See: Chlorine

Chemical: Dibenzoyl

See: Benzil

Chemical: Dichlor

See: Methylphosponyl dichloride

Chemical: Dichlorine

See: Chlorine

**Chemical:
Dichloroethylphosphine oxide**

See: Ethylphosphonic dichloride

Chemical: Dichloromethane

See: Methylene dichloride

**Chemical:
Dichloromethylphosphine sulfide**

See: Methylphosphonothioic
dichloride

Chemical: Dichlorosulfane

See: Sulfur dichloride

**Chemical:
Dichloro ethyl phosphine**

See: Ethylphosphonous dichloride

Chemical: Diethanol amine

See: Diethanolamine

Chemical: Diethanolamine

Synonym: Ethanol,2,2'-iminobis-
Diethanol amine
2,2'-Iminodiethanol
DEA
Diolamine

CAS No: 111-42-2

Use: Unscheduled precursor to
HN1 and HN2

**Chemical:
Diethoxyethylphosphine oxide**

See: Diethyl ethylphosphonate

**Chemical: Diethyl (2-
mercaptoethyl) amine**

See: N,N-Diethylaminoethanethiol

**Chemical:
Diethyl chlorophosphite**

See: Diethylphosphorachloridite

**Chemical: Diethyl
dimethylphosphoramidate**

See: Diethyl N,N-dimethyl
phosphoramidate

**Chemical: Diethyl
dimethylphosphoramidite**

See: O,O-Diethyl
N,Ndimethylphosphoramidite

**Chemical: Diethyl
dimethylphosphoramidous acid**

See: O,O-Diethyl
N,Ndimethylphosphoramidite

**Chemical:
Diethyl ethylphosphonate**

Synonym: DEEP
Phosphonic acid, ethyl-, diethyl
ester
Diethoxyethylphosphine oxide

Schedule: 2B

CAS No: 78-38-6

Use: Scheduled precursor to
Ethylsarin

Chemical: Diethyl methylphosphonite

Synonym: TR
O,O-Diethyl ester of methylphosphonous acid
Schedule: 2B
CAS No: 15715-41-0
Synthesis: Methylphosphonous dichloride and ethanol
Catalyst: Ammonia
Use: Scheduled precursor to QL

Chemical: Diethyl methylphosphonothionate

See: O,O Diethyl methylphosphonothionate

Chemical: Diethyl N,N-dimethyl phosphoramidate

Synonym: DEDMPNA
DDPNA
Diethyl
N,Ndimethylphosphoramidate
Diethyl dimethylphosphoramidate
Schedule: 2B
CAS No: 2404-03-7
Use: Scheduled precursor to Tabun

Chemical: Diethyl N,Ndimethylphosphoramidate

See: Diethyl N,N-dimethyl phosphoramidate

Chemical: Diethyl phosphite

Synonym: Diethylphosphite
DEHP
Diethyl phosphonate
Schedule: 3B
CAS No: 762-04-9
Synthesis: Phosphorous trichloride and ethanol
Catalyst: NaOH
Use: Scheduled precursor to VG, Sarin, Soman, and GF

Chemical: Diethyl phosphonate

See: Diethyl phosphite

Chemical: Diethyl phosphorochloridate

See: O,O Diethylphosphorochloridate

Chemical: Diethyl phosphorothiochloridate

See: O,O-Diethyl phosphorothionochloridate

Chemical: Diethyl sodium phosphite

See: Sodium O,O-diethyl phosphite

Chemical: Diethyl sodium phosphonate

See: Sodium O,O-diethyl phosphite

Chemical: Diethylamine

Synonym: N-Ethylethanamine
Ethanamine, N-ethyl-
CAS No: 109-89-7
Use: Unscheduled precursor to 2-(N,N-diethylamino)ethanol

Chemical: Diethylcysteamine

See: N,N-Diethylaminoethanethiol

Chemical: Diethylene glycol

CAS No: 111-46-6
Use: Unscheduled reaction catalyst in production of DMMP

Chemical: Diethylphosphorachloridite

Synonym: DEPCI
Phosphorochloridous acid, diethyl ester
Diethyl chlorophosphite
Ethyl phosphorochloridite
CAS No: 589-57-1
Use: Unscheduled precursor to Tabun

Chemical: Difluor

See: Methylphosphonyl difluoride

Chemical: Difluor (ethyl) phosphine

See: Ethylphosphonous difluoride

Chemical: DIHP

Synonym: Diisopropyl phosphite
CAS No: 1809-20-9
Use: Unscheduled precursor to DIMP

Chemical: Diisopropyl ester of methylphosphonic acid

See: DIMP

Chemical: Diisopropyl hydrogen phosphonate

See: O,O-Diisopropyl hydrogenphosphonate

Chemical: Diisopropyl phosphinate

See: Diisopropyl phosphonate

Chemical: Diisopropyl phosphite

See: DIHP

Chemical: Diisopropyl phosphonate

Synonym: Phosphonic acid, diisopropyl ester
Phosphonic acid, bis(1-methyl ethyl) ester
Isopropyl isopropylphosphinate
Diisopropyl phosphinate
CAS No: 1809-20-7
Use: Unscheduled precursor to Sarin, GE, and DIMP

Chemical: Diisopropylamine

Synonym: DIPA
N,N-Diisopropylamine
2-Propanamine, N-(1-Methylethyl)-
CAS No: 108-18-9
Use: VX

**Chemical:
Diisopropylaminoethanethiol**

See: N,N-Diisopropylaminoethanethiol

**Chemical:
Dilute hydrochloric acid**

See: Hydrochloric acid (HCl)

**Chemical: Dimethyl
(2-chloroethyl) amine**

See: 2-(N,N-Dimethylamino) ethyl chloride

Chemical: Dimethyl amine

See: Dimethylamine

**Chemical: Dimethyl ester of
methylphosphonic acid**

See: Dimethyl methylphosphonate

**Chemical: Dimethyl
ethanephosphonate**

See: Dimethyl ethylphosphonate

**Chemical: Dimethyl
ethylphosphonate**

Synonym: Ethane phosphonic acid,
dimethyl ester
Phosphonic acid, ethyl-, dimethyl ester
Dimethyl ethanephosphonate
CAS No: 6163-75-3
Use: Ethyl sarin

**Chemical: Dimethyl
methylphosphonate**

Synonym: DMMP
Dimethyl ester of methylphosphonic acid
Schedule: 2B
CAS No: 756-79-6
Synthesis: 1) DMHP, methyl Chloride, and metallic sodium; 2) trimethyl phosphite
Catalyst: 1) Diethylene glycol; 2) methyl iodide
Use: Scheduled precursor to DC

Chemical: Dimethylamine

Synonym: Dimethyl amine
Methanamine, N-methyl-
N,N-Dimethylamine
N-Methylmethanamine
CAS No: 124-40-3
Use: Unschedule precursor to Tabun

Chemical: Dimethylamine HCl

Synonym: Dimethylamine hydrochloride
Dimethylammonium chloride
Methanamine, N-methyl-, hydrochloride
N-Methylmethanamine hydrochloride
CAS No: 506-59-2
Use: Unschedule precursor to Tabun

**Chemical:
Dimethylamine hydrochloride**

See: Dimethylamine HCl

**Chemical:
Dimethylaminoethyl chloride**

See: 2-(N,N-Dimethylamino) ethyl chloride

**Chemical: Dimethylaminoethyl
chloride hydrochloride**

See: (N,N-Dimethylamino) ethyl chloride hydrochloride

**Chemical:
Dimethylammonium chloride**

See: Dimethylamine HCl

Chemical: dimethylene oxide

See: Ethylene oxide

Chemical: Dimethyl phosphite

Synonym: DMHP
O,O-Dimethylphosphonate
Schedule: 3B
CAS No: 868-85-9
Synthesis: Phosphorous trichloride and methanol
Catalyst: Methyl chloride
Use: Scheduled precursor to DMMP

**Chemical:
Dimethylphosphoramidic
dicyanide**

See: N,N-Dimethylphosphoramidic dicyanide

Chemical: DIMP

Synonym: O-O-diisopropyl methylphosphonate
Diisopropyl ester of methylphosphonic acid
Schedule: 2B
CAS No: 1445-75-6
Synthesis: DIHP, metallic sodium and methyl chloride
Catalyst: Diethylene glycol
Use: Scheduled precursor to Chlorosarin

Chemical: Diolamine

See: Diethanolamine

Chemical: DIPA

See: Diisopropylamine

Chemical: Diphenylglycolic acid methyl ester

See: Methyl benzilate

Chemical: Diphenylglyoxal

See: Benzil

Chemical: Diphosgene

CAS No: 503-38-8

Use: Unscheduled precursor to Phosgene

Chemical: Diphosphonic acid, dimethyl

See: 1,2-Dimethyldiphosphonic acid

Chemical: Dipropylethanolamine

See: 2-(N,N-Dipropylamino) ethanol

Chemical: Disodium monosulfide

See: Sodium sulfide

Chemical: Disodium sulfide

See: Sodium sulfide

Chemical: Disulfide, bis(2-chloroethyl)

See: Bis(2-chloroethyl) disulfide

Chemical: Disulfur dichloride

See: Sulfur monochloride

Chemical: Dithioglycol

See: 1,2-Ethanedithiol

Chemical: Divinyl sulfide

Synonym: 1,1'-Thiobisethene

Divinyl thioether

Vinyl sulfide

Vinylsulfanylene

CAS No: 627-51-0

Use: Unscheduled precursor to HD

Chemical: Divinyl thioether

See: Divinyl sulfide

Chemical: DMHP

See: Dimethyl phosphite

Chemical: DMMP

See: Dimethyl methylphosphonate

Chemical: Doppel-O

See: Sesquimustard

Chemical: DPMP

See: O,O-Dipinacolyl methylphosphonate

Chemical: DSDP

See: Amiton

Chemical: E-DC

See: Ethylphosphonic dichloride

Chemical: E-DF

See: Ethylphosphonyl difluoride

Chemical: E-GD

See: O-Pinacolyl ethylphosphonofluoridate

Chemical: EA 1019

See: Bis(2-hydroxyethyl)sulfide

Chemical: EA 2192

See: S-2-Diisopropylaminoethyl methylphosphonothioic acid

Chemical: EDMPNC

See: O-Ethyl N,N-dimethyl phosphoramidochloridate

Chemical: Elayl

See: Ethylene

Chemical: English Lost

See: O-Mustard

Chemical: ENT 24

See: Amiton

Chemical: Ethanamine

See: Ethylamine

Chemical: Ethanamine, 2-chloro-N,N-bis(2-chloroethyl)

See: Tris(2-chloroethyl) amine hydrochloride

Chemical: Ethanamine, 2-chloro-N,N-diethyl

See: 2-(N,N-Diethylamino)ethyl chloride

Chemical: Ethanamine, N-ethyl-

See: Diethylamine

Chemical: Ethane phosphonic acid, dimethyl ester

See: Dimethyl ethylphosphonate

Chemical: Ethane, 1,1'-(methylenebis(thio))bis(2-chloro-

See: Bis(2-chloroethylthio)methane

Chemical: Ethane, 1,1'-(oxybis(methylenethio))bis(2-chloro-

See: Bis(2-chloroethylthiomethyl)ether

Chemical: Ethane, tetrafluoro-

See: Tetrafluoroethylene

Chemical: Ethanedione, diphenyl

See: Benzil

Chemical: Ethanephosphonyl chloride

See: Ethylphosphonic dichloride

Chemical: Ethanethiol, 2-(diethylamino)

See: N,N-Diethylaminoethanethiol

Chemical: Ethanethiol, 2-(diisopropylamino)-

See:
N,N-diisopropylaminoethanethiol

Chemical: Ethanol

Synonym: Alcare hand degermer
Alcohol
Alcohol anhydrous
Algrain
Anhydrol
CAS No: 64-17-5
Use: Unscheduled precursor to BZ, Diethyl phosphite, and Triethyl phosphite

Chemical: Ethanol, 2,2',2'', -

nitrilotris-, hydrochloride
See: Triethanolamine hydrochloride (HN-3)

Chemical: Ethanol, 2,2'-(methylenebis(thio))bis-

See: Bis(2-hydroxyethylthio)methane

Chemical: Ethanol, 2-(bis(1-methylethyl)amino)

See: N,N-diisopropyl-(beta)-aminoethanol

Chemical: Ethanol, 2-(dipropylamino)-

See: 2-(N,N-Dipropylamino)ethanol

Chemical: Ethanol, 2-chloro-

See: 2-Chloroethanol

Chemical: Ethanol, 2-mercapto-

See: 2-Hydroxyethanethiol

Chemical: Ethanol,2,2'-(oxybis(2,1-ethanediythio))bis

See: Bis(2-hydroxyethylthioethyl)ether

Chemical: Ethanol,2,2'-iminobis-

See: Diethanolamine

Chemical: Ethanol,2-amino-

See: Ethanolamine

Chemical: Ethanolamine

Synonym: Ethanol,2-amino-
Colamine
Ethylolamine
Glycinol
MEA
MEA (alcohol)
CAS No: 141-43-5

Chemical: Ethanone, 2-hydroxy-1,2-diphenyl

See: Benzoin

Chemical: Ethanone,2-hydroxy-1,2- diphenyl

See: Benzoin

Chemical: Ethene

See: Ethylene

Chemical: Ethene, tetrafluoro-, homopolymer

See: Polytetrafluoroethylene

Chemical: Ethine

See: Acetylene

Chemical: Ethoxymethylphosphine oxide

See: O-Ethyl methyl phosphinic acid

Chemical: Ethyl 4-(ethyoxycarbonyl)-1-piperidine acetic acid

See: 1-Carboethoxymethyl-4-carboethoxypiperidine

Chemical: Ethyl chlorohydrin

See: 2-Chloroethanol

Chemical: Ethyl difluorophosphite

See: Ethylphosphonyl difluoride

Chemical: Ethyl GB

See: O-Isopropyl ethylphosphonofluoridate

Chemical: Ethyl GD

See: O-Pinacolyl ethylphosphonofluoridate

Chemical: Ethyl isonicotinate

Synonym: 4-Pyridinecarboxylic acid, ethyl ester,
gamma-Pyridine carboxylic acid, ethyl ester
CAS No: 1570-45-2
Use: Unscheduled precursor to 3-Quinuclidinone hydrochloride

Chemical: Ethyl methylphosphinate

See: O-Ethyl methyl phosphinic acid

Chemical: Ethyl N,N-dimethylphosphoramidochloridate

See: O-Ethyl N,N-dimethyl phosphoramidochloridate

Chemical: Ethyl phosphine dichloride

See: Ethylphosphonous dichloride

Chemical: Ethyl phosphinyl difluoride

See: Ethylphosphonous difluoride

Chemical: Ethyl phosphonic difluoride

See: Ethylphosphonyl difluoride

Chemical: Ethyl phosphonyl dichloride

See: Ethylphosphonic dichloride

Chemical:
Ethyl phosphorochloridite

See: Diethylphosphorachloridite

Chemical: Ethyl ThioMPA

See: O-Ethyl
methylphosphonothiolic acid

Chemical: Ethyl-S

See: HN1

Chemical: Ethylamine

Synonym: 1-Aminoethane
Ethanamine
Monoethylamine
n-Ethylamine
CAS No: 75-04-7
Use: Unscheduled precursor to
HN1

Chemical: Ethyldiethanolamine

Synonym: 2,2-(ethylimino)diethanol
N-ethyl-2-2-iminodiethanol
Schedule: 3B
CAS No: 139-87-7
Synthesis: Ethylamine with
ethylene oxide
Use: Scheduled precursor to HN1

Chemical:
Ethyldifluorophosphine

See: Ethylphosphonous difluoride

Chemical: Ethylene

Synonym: Ethene
Acetene
Bicarburretted hydrogen
Elayl
Olefiant gas
CAS No: 74-85-1
Use: Unscheduled precursor to HD

Chemical: Ethylene chlorhydrin

See: 2-Chloroethanol

Chemical: Ethylene oxide

Synonym: dimethylene oxide
1,2-Epoxyethane
oxiran
CAS No: 75-21-8
Use: Unscheduled precursor to
Triethanolamine,
2-(N,Ndiethylamino)
ethanol

Chemical: Ethylolamine

See: Ethanolamine

**Chemical: Ethylphosphonic
dichloride**

Synonym: E-DC
Dichloroethylphosphine oxide
Ethanephosphonyl chloride
Ethyl phosphonyl dichloride
CAS No: 1066-50-8
Use: Ethyl sarin

Chemical:
Ethylphosphonous dichloride

Synonym: Phosphonous
dichloride, ethyl-
Dichloro ethyl phosphine
Ethyl phosphine dichloride
CAS No: 1498-40-4
Use: VE, VS, and Ethyl sarin

Chemical:
Ethylphosphonous difluoride

Synonym: Difluor (ethyl) phosphine
Ethyl phosphinyl difluoride
Ethyldifluorophosphine
Phosphonous, difluoride, ethyl-
CAS No: 430-78-4
Use: VE and Ethyl sarin

Chemical:
Ethylphosphonyl difluoride

Synonym: Ethyl phosphonic
difluoride
Ethyl difluorophosphite
E-DF
CAS No: 753-98-0
Use: Ethyl sarin

Chemical: Ethylsarin

See: O-Isopropyl
ethylphosphonofluoridate

Chemical: Ethylsoman

See: O-Pinacolyl
ethylphosphonofluoridate

Chemical: Ethyne

See: Acetylene

Chemical: EVITs

See: Phosphoric acid

Chemical: FA

See: Formaldehyde

Chemical: Fannoform

See: Formaldehyde

Chemical: FDA 0101

See: Sodium fluoride

Chemical: Floguard 1015

See: Formaldehyde

Chemical: Floridine

See: Sodium fluoride

Chemical: Fluohydric acid gas

See: Hydrogen fluoride

Chemical: Fluohydric gas

See: Hydrogen fluoride

Chemical: Fluorigard

See: Sodium fluoride

Chemical: Fluorol

See: Sodium fluoride

Chemical: Flursol

See: Sodium fluoride

Chemical: FM 282

See: Formaldehyde

Chemical: Formaldehyde

Synonym: BFV

FA

FM 282

Fannoform

Floguard 1015

CAS No: 50-00-0

Use: Unscheduled precursor to HN2

Chemical: Fuming liquid arsenic

See: Arsenic trichloride

Chemical: g-Picolinic acid

See: Isonicotinic acid

Chemical: g-Pyridinecarboxylic acid

See: Isonicotinic acid

Chemical: GA

See: Tabun

Chemical: gamma-Pyridine carboxylic acid, ethyl ester

See: Ethyl isonicotinate

Chemical: GB

See: Sarin

Chemical: GD

See: Soman

Chemical: GE

See: O-Isopropyl ethylphosphonofluoridate

Chemical: Glycinol

See: Ethanolamine

Chemical: Glycolonitrile

See: Hydroxyacetoneitrile

Chemical: Glycine A

See: Bis(2-hydroxyethyl)sulfide

Chemical: H

See: Bis(2-chloroethyl)sulfide

Chemical: Hexafluoropropylene

See: Perfluoropropylene

Chemical: HN1

Synonym: Bis(2-chloroethyl)ethylamine

1149

2-2-Dichlorothrethylamine

Ethyl-S

T-1790

Schedule: 1A

CAS No: 538-07-8

Synthesis: Ethyl diethanolamine and thionyl chloride

Catalyst: Benzene; chloroform or ethylene chloride

Use: Toxic chemical

Chemical: HN2

Synonym: Bis(2-chloroethyl)methylamine

1130

S

Schedule: 1A

CAS No: 51-75-2

Synthesis: Methyl diethanolamine and thionyl chloride

Catalyst: Ethylene dichloride or chloroform

Use: Toxic chemical

Chemical: HN3

Synonym: Tris(2-chloroethyl)amine

2,2,2-Trichlorothrethylene

Nitrogen Mustard

1070

Nitrogen yperite

Nitrogen Lost

T9

TBA

Schedule: 1A

CAS No: 555-77-1

Synthesis: Triethanolamine and thionyl chloride

Catalyst: Benzene

Use: Toxic chemical

Chemical: HS

See: Bis(2-chloroethyl)sulfide

Chemical: Hydrochloric acid (HCl)

Synonym: Anhydrous hydrochloric acid

Chlorohydric acid

Dilute hydrochloric acid

CAS No: 7647-01-0

Use: Unscheduled precursor to Arsenic trichloride

Chemical: Hydrocyanic acid, sodium salt

See: Sodium cyanide

Chemical: Hydrogen cyanide

Synonym: AC

Blausaeure

Blauwzuer

Blsyra

Brown no.1

Schedule: 3B

CAS No: 74-90-8

Synthesis: 1) ammonia, methane, and hydrogen; 2) ammonia and methane in the absence of air; 3) hydrogen, nitrogen, and coal

Catalyst: 1) platinum; 2) platinum

Use: Toxic chemical

Chemical: Hydrogen fluoride

Synonym: Antisal 2b

Anhydrous hydrofluoric acid

Fluohydric acid gas

Fluohydric gas

CAS No: 7664-39-3

Use: Unscheduled precursor to DF, PFIB, and Sarin

Chemical: hydroxy-.alpha.-phenyl-

See: 2,2-Diphenyl-2-hydroxyacetic acid

Chemical: Hydroxyacetoneitrile

Synonym: Cyanomethanol

Cyanohydrin formaldehyde

Glycolonitrile

CAS No: 107-16-4

Use: Unscheduled precursor to HN2

Chemical: I-GA

See: O-Ethyl N,N-diisopropyl phosphoramidocyanidate

Chemical: I-GD

See: O-Pinacolyl isopropyl phosphonofluoridate

Chemical: Inferno

See: Amiton

Chemical: Iodomethane

See: Methyl iodide

Chemical: Isobutenyl methyl ketone

See: Mesityl oxide

Chemical: Isonicotinic acid

Synonym: 4-Pyridinecarboxylic acid

g-Pyridinecarboxylic acid

g-Picolinic acid

CAS No: 55-22-1

Use: Unscheduled precursor to 3-Quinuclidinone hydro

Chemical: Isopropanol

Synonym: Isopropyl alcohol

2-Propanol

1-Methyl ethanol

2-Hydroxypropane

2-Propyl alcohol

CAS No: 67-63-0

Use: Unscheduled precursor to Sarin

Chemical: Isopropyl alcohol

See: Isopropanol

Chemical: Isopropyl ethylphosphonofluoridate

See: O-Isopropyl ethylphosphonofluoridate

Chemical: Isopropyl GA

See: O-Ethyl N,N-diisopropyl phosphoramidocyanidate

Chemical: Isopropyl GD

See: O-Pinacolyl isopropyl phosphonofluoridate

Chemical: Isopropyl GF, I-GF

See: O-Cyclohexanyl isopropyl phosphonofluoridate

Chemical: Isopropyl isopropylphosphinate

See: Diisopropyl phosphonate

Chemical: Isopropyl sodium phosphite

See: Sodium diisopropyl phosphonate

Chemical: Isopropylideneacetone

See: Mesityl oxide

Chemical: KB

See: N,N-Diisopropyl-(beta)-aminoethanol

Chemical: KCL III

See: Ricin

Chemical: KCL IV

See: Ricin

Chemical: Kefo

See: Phosphoric acid

Chemical: Kromfax solvent

See: Bis(2-hydroxyethyl)sulfide

Chemical: Lewisite 1

Synonym: 2-

Chlorovinyl-dichloroarsine

2-chloroethanyl-dichloroarsine

M-1

Lyuizit

R-5

Schedule: 1A

CAS No: 541-25-3

Synthesis: 1) arsenic trichloride and acetylene; 2) arsenic trichloride and trichloro(2-chlorovinyl) silicide; 3) arsenic trichloride and acetylene; 4) arsenic trichloride and acetylene

Catalyst: 1) aluminum chloride; 2) cuprous chloride w/ ethanolamine hydrochloride; 3) mercuric chloride/ hydrochloric acid

Use: Toxic chemical

Chemical: Lewisite 2

Synonym: Bis(2-chlorovinyl)chloroarsine

M-2

Chlorobis(2-chlorovinyl)arsine

Schedule: 1A

CAS No: 40334-69-8

Synthesis: Lewisite 2 is a 10% coproduct of Lewisite 1 (1st process)

Use: Toxic chemical

Chemical: Lewisite 3

Synonym: Tris(2-chlorovinyl)arsine

M-3

Schedule: 1A

CAS No: 40334-70-1

Synthesis: Lewisite 3 is a <10% coproduct of Lewisite 1 (1st process)

Use: Toxic chemical

Chemical: Lithium (T-4) aluminate

See: Lithium aluminum hydride

Chemical: Lithium aluminum hydride

Synonym: Aluminum lithium hydride

Sodium tetrahydroborate

Lithium (T-4) aluminate

CAS No: 16853-85-3

Use: Unscheduled precursor to BZ

Chemical: LT

See: Bis(2-diisopropylamino ethyl) methylphosphonite

Chemical: Lyuizit

See: Lewisite 1

Chemical: M-1

See: Lewisite 1

Chemical: M-2

See: Lewisite 2

Chemical: M-3

See: Lewisite 3

**Chemical:
Magnesium, bromophenyl**

See: Phenyl magnesium bromide

Chemical: Marsh gas

See: Methane

Chemical: MEA

See: Ethanolamine

Chemical: MEA (alcohol)

See: Ethanolamine

Chemical: Mercurialin

See: Methylamine

Chemical: Mercuric chloride

Synonym: Mercury chloride
(HgCl₂)

Mercury (II) chloride
Mercury bichloride
Mercury perchloride
Corrosive sublimate

CAS No: 7487-94-7

Use: Reaction catalyst in
production of Lewisite 1

Chemical: Mercury (II) chloride

See: Mercuric chloride

Chemical: Mercury bichloride

See: Mercuric chloride

**Chemical:
Mercury chloride (HgCl₂)**

See: Mercuric chloride

Chemical: Mercury perchloride

See: Mercuric chloride

Chemical: Mesityl oxide

Synonym: 4-Methyl-3-penten-2-one
3-Penten-2-one,4-methyl
Isopropylideneacetone
Isobutenyl methyl ketone
CAS No: 141-79-7

Use: Unscheduled precursor to
Pinacolone

Chemical: Methanamine

See: Methylamine

**Chemical: Methanamine,
N-methyl-**

See: Dimethylamine

**Chemical: Methanamine,
N-methyl-, hydrochloride**

See: Dimethylamine HCl

Chemical: Methane

Synonym: Biogas

Marsh gas
Methyl hydride
R 50

R 50 (refrigerant)

CAS No: 74-82-8

Use: Unscheduled precursor to
Sarin, Soman, and VX

Chemical: Methane dichloride

See: Methylene dichloride

Chemical: Methane, chloro

See: Methyl chloride

Chemical: Methane, dichloro

See: Methylene dichloride

Chemical: Methane, iodo

See: Methyl iodide

**Chemical: Methane,
oxybis(chloro-**

See: Bis(chloromethyl)ether

Chemical: Methanol

Synonym: Bialeski's solution
Carbinol

Methyl alcohol
Methyl hydrate
Methyl hydroxide

CAS No: 67-56-1

Use: Reaction catalyst in
production of 2-(N,Ndiethylamino)
ethanol

Chemical: Methanol, sodium salt

See: Sodium methylate

Chemical: Methyl alcohol

See: Methanol

Chemical: Methyl benzilate

Synonym: Methyl ester
Methyl diphenylglycolate
Diphenylglycolic acid methyl ester
Benzilic acid, methyl ester
Methyl hydroxydiphenylacetate

CAS No: 76-89-1

Use: BZ

Chemical: Methyl chloride

Synonym: Chloromethane
Artic

Methane, chloro
Monochloromethane
R 40

CAS No: 74-87-3

Use: Unscheduled precursor to
DIMP and DMMP

Chemical: Methyl diethanolamine

CAS No: 105-59-9

Use: Unscheduled precursor to HN2

**Chemical:
Methyl diphenylglycolate**

See: Methyl benzilate

Chemical: Methyl ester

See: Methyl benzilate

Chemical: Methyl formate

CAS No: 107-31-3

Use: Unscheduled precursor to Phosgene

Chemical: Methyl hydrate

See: Methanol

Chemical: Methyl hydride

See: Methane

Chemical: Methyl hydroxide

See: Methanol

**Chemical:
Methyl hydroxydiphenylacetate**

See: Methyl benzilate

Chemical: Methyl iodide

Synonym: Iodomethane

Methane, iodo

CAS No: 74-88-4

Use: Unscheduled reaction catalyst in production of DMMP

**Chemical:
Methyl methanephosphonate**

See: O-Methyl methylphosphonate

Chemical: Methyl methyl phosphonic acid

See: O-Methyl methylphosphonate

**Chemical:
Methyl methylphosphonate**

See: O-Methyl methylphosphonate

Chemical: Methyl methylphosphonochloridate

Synonym: Phosphonochloridic acid,

methyl-, methylester

Methyl methylphosphonochloridic acid

Schedule: 2B

CAS No: 1066-52-0

Use: Byproduct of Chlorosarin

Chemical: Methyl methylphosphonochloridic acid

See: Methyl methylphosphonochloridate

**Chemical:
Methyl phosphonate, anhydride**

See: 1,2-Dimethyldiphosphonic Acid

**Chemical:
Methyl phosphinyl dichloride**

See: Methylphosphonous dichloride

**Chemical:
Methyl phosphinyl difluoride**

See: Methylphosphonous difluoride

Chemical: Methylamine

Synonym: Amino methane

Carbinamine

MMA

Methanamine

Mercurialin

CAS No: 74-89-5

Use: Unscheduled precursor to Methyleneethanolamine

Chemical: Methyl diethanolamine

Synonym: 2,2-

(methylimino)diethanol

S glycol

S-diol

Schedule: 3B

CAS No: 105-59-9

Synthesis: Ethylene oxide and methylamine

Use: Scheduled precursor to HN2

Chemical: Methylene chloride

CAS No: 75-05-2

Use: Reaction catalyst in production of "Perren-Kinnear" complex

Chemical: Methylene dichloride

Synonym: Dichloromethane

Methane, dichloro

Methane dichloride

Solmethine

CAS No: 75-09-2

Use: Unscheduled precursor to Sarin, HD, and Soman

**Chemical:
Methylphosphonic anhydride**

See: 1,2-Dimethyldiphosphonic acid

**Chemical:
Methylphosphonic dichloride**

See: Methylphosphonyl dichloride

**Chemical:
Methylphosphonic difluoride**

See: Methylphosphonyl difluoride

**Chemical:
Methylphosphonodichloridate**

See: Methylphosphonyl dichloride

Chemical:
Methylphosphonothioic acid, O,O-diethyl ester

See: O,O Diethyl methylphosphonothionate

Chemical:
Methylphosphonothioic acid, O-ethyl ester

See: O-Ethyl methylphosphonothioic acid

Chemical:
Methylphosphonothioic dichloride

Synonym: SWS
Dichloromethylphosphine
Phosphonothiotic dichloride, methyl
Schedule: 2B
CAS No: 676-98-2
Use: Scheduled precursor to YLS and VX

Chemical:
Methylphosphonous dichloride

Synonym: Methyl phosphinyl dichloride
Schedule: 2B
CAS No: 676-83-5
Synthesis: Phosphorous trichloride and methane
Use: Scheduled precursor to VX

Chemical:
Methylphosphonous difluoride

Synonym: Methyl phosphinyl difluoride
Schedule: 2B
CAS No: 753-59-3
Synthesis: Phosphorous trifluoride and methane
Use: Scheduled precursor to VX

Chemical:
Methylphosphonyl dichloride

Synonym: DC
Dichlor
Methylphosphonic dichloride
Methylphosphonodichloridate
Schedule: 2B
CAS No: 676-97-1
Synthesis: 1) dimethyldiphosphonic acid, phosphorus trichloride; 2) dimethyldiphosphonic acid, methylphosphonous dichloride; 3) DMMP, thionyl chloride; 4) "Perren-Kinney" complex and methylene chloride
Catalyst: Nitrogen, calcium chloride
Use: Scheduled precursor to Sarin, Soman, DF, and Chlorosoman

Chemical:
Methylphosphonyl difluoride

Synonym: DF
Methylphosphonic difluoride
Difluor
Schedule: 1B
CAS No: 676-99-3
Synthesis: Methylphosphonic dichloride and hydrogen fluoride
Use: Scheduled precursor to Sarin and Soman

Chemical:
Methylphosphorus tetrachloride

Synonym: MPTC
Tetrachloromethylphosphorane
Phosphorane, tetrachloromethyl-
Methyltetrachlorophosphorous (V)
Schedule: 2B
CAS No: 2725-68-0
Use: Scheduled precursor to DC, DIMP, and DF

Chemical:
Methyltetrachlorophosphorous (V)

See: Methylphosphorus tetrachloride

Chemical: Metramac

See: Amiton

Chemical: MMA

See: Methylamine

Chemical: MMPA

See: O-Methyl methylphosphonate

Chemical: Molecular chlorine

See: Chlorine

Chemical: Monochloroethylene

See: Vinyl chloride

Chemical: Monochloromethane

See: Methyl chloride

Chemical: Monoethylamine

See: Ethylamine

Chemical: Monosulfur dichloride

See: Sulfur dichloride

Chemical: Morpholine, N-2-hydroxyethyl-4-sulfo,hydrochloride

See: N-Hydroxyethylthiomorpholine hydrochloride

Chemical: MPTC

See: Methylphosphorus tetrachloride

Chemical: Mustard gas

See: Bis(2-chloroethyl)sulfide

Chemical: Mustard oil (M.O.)

See: Bis(2-chloroethyl)sulfide

Chemical:
N,N Dipropylphosphoramidic dichloride

Synonym: N,N-Di-n-propyl phosphoramidic dichloride
Di-n-propylphosphoramidic dichloride
Schedule: 2B
CAS No: 40881-98-9
Use: Scheduled precursor to G11

Chemical: N,N-Di-n-propyl phosphoramidic dichloride

See: N,N Dipropylphosphoramidic dichloride

Chemical: N,N-Dibutyl-

See: Tributylamine

Chemical: N,N-Dibutyl-1-butanamine

See: Tributylamine

Chemical: N,N-Diethylaminoethane-2-thio

See: N,N-Diethylaminoethanethiol

Chemical: N,N-Diethylaminoethanethiol

Synonym: N,N-Diethylaminoethane-2-thiol

Ethanethiol, 2-(diethylamino)
Diethylcysteamine
Diethyl (2-mercaptoethyl) amine

Schedule: 2B
CAS No: 100-38-9

Chemical: N,N-Diisopropyl phosphoramidic dichloride

Schedule: 2B
CAS No: 23306-80-1
Use: Scheduled precursor to G10

Chemical: N,N-Diisopropyl-(beta)-aminoethanol

Synonym: KB
Ethanol, 2-(bis(1-methylethyl)amino)
2-(Bis(1-methylethyl) amino) ethanol
(N,N-Diisopropylamino) ethanol

Schedule: 2B
CAS No: 96-80-0
Use: Scheduled precursor to QL, VX, VS, V4, and V5

Chemical: N,N-Diisopropyl-(beta)-aminoethyl chloride

Synonym: 2-(N,N,-Diisopropylamino) ethyl chloride
2-Propanamine, N-(2-chloroethyl)-N-(1-methylethyl)-
N-(2-Chloroethyl)-N-(1-methylethyl)-2-propanamine

Schedule: 2B
CAS No: 96-79-7
Use: Scheduled precursor to VX and VS

Chemical: N,N-Diisopropyl-.beta.-aminoethanethiol

See: N,Ndiisopropylaminoethanethiol

Chemical: N,N-Diisopropyl-2-aminoethyl chloride hydrochloride

See: 2-(N,N-Diisopropylamino) ethyl chloride hydrochloride

Chemical: N,N-Diisopropylamine

See: Diisopropylamine

Chemical: N,N-Diisopropylaminoethanethiol

Synonym: N,N-Diisopropyl-.beta.-aminoethanethiol
Diisopropylaminoethanethiol
Ethanethiol, 2-(diisopropylamino)-
Schedule: 2B
CAS No: 5842-07-9
Use: Scheduled precursor to VX and VS

Chemical: N,N-Dimethylamine

See: Dimethylamine

Chemical: N,N-Dimethylphosphoramidic dichloride

Synonym: N,N-dimethylphosphoramido dichloridate
Product 39
Schedule: 2B
CAS No: 677-43-0
Synthesis: N,N-dimethylphosphoramido dichloridate
Catalyst: Solvent such as chlorobenzene
Use: Scheduled precursor to Tabun and DC

Chemical: N,N-Dimethylphosphoramidic dicyanide

Synonym: Dimethylphosphoramidic dicyanide
Phosphoramidic dicyanide, dimethyl
Schedule: 2B
Use: Scheduled precursor to Tabun

Chemical: N,N-Dimethylphosphoramido dichloridate

See: N,N-Dimethylphosphoramidic dichloride

Chemical: N-(2-Chloroethyl)-N-(1-methylethyl)-2-propanamine

See: N,N-diisopropyl-(beta)-aminoethyl chloride

Chemical: N-(2-chloroethyl)-Npropyl-1-propanamine

See: 2-(N,N-Dipropylamino) ethyl chloride

Chemical: N-(2-Chloroethyl)-N-propyl-1-propanamine hydrochloride

See: (N,N-Dipropylamino) ethyl chloride hydrochloride

Chemical: N-Ethyl-2-2-iminodiethanol

See: Ethyldiethanolamine

Chemical: n-Ethylamine

See: Ethylamine

Chemical: N-Ethylethanamine

See: Diethylamine

**Chemical:
N-Hydroxyethylthiomorpholine
hydrochloride**

Synonym: Morpholine, N-2-
hydroxyethyl-4-sulfo-,hydrochloride
Use: Unscheduled precursor to HD

Chemical: N-Methylmethanamine

See: Dimethylamine

**Chemical: N-Methylmethanamine
hydrochloride**

See: Dimethylamine HCl

Chemical: Narcylen

See: Acetylene

Chemical: Natrium

See: Sodium

Chemical: Natrium cyanide

See: Sodium cyanide

Chemical: NCI-CO4591

See: Carbon disulfide

Chemical: Nitrochloroform

See: Chloropicrin

Chemical: Nitrochloromethane

See: Chloropicrin

Chemical: Nitrogen Lost

See: HN3

Chemical: Nitrogen mustard

See: HN3

Chemical: Nitrogen yperite

See: HN3

Chemical: Nitrosil

See: Ammonia

**Chemical: O,O Diethyl
methylphosphonothionate**

Synonym: TRS
Diethyl methylphosphonothionate
Methylphosphonothioic acid,
O,Odiethyl
ester
Schedule: 2B
CAS No: 6996-81-2
Use: Scheduled precursor to YLS

**Chemical: O,O
Diethylphosphorochloridate**

Synonym: Phosphorochloridic acid,
diethyl ester
Diethyl phosphorochloridate
CAS No: 814-49-3
Use: Unscheduled precursor to
Amiton

Chemical: O,O-Diethyl ester

See: Amiton

**Chemical: O,O-Diethyl ester of
methphosphonus acid**

See: Diethyl methylphosphonite

**Chemical: O,O-Diethyl
N,Ndimethylphosphoramidite**

Synonym: OEDMDAI
Phosphoramidous acid, dimethyl-,
diethyl ester
Diethyl dimethylphosphoramidite
Diethyl dimethylphosphoramidous
acid
CAS No: 2632-87-3
Use: Unscheduled precursor to
Tabun

**Chemical: O,O-Diethyl
phosphorothiochloridate**

Synonym: Chlorophosphonothioic
acid, O,O-diethyl ester
Diethyl phosphorothiochloridate
CAS No: 2524-04-1
Use: Unscheduled precursor to
Amiton

**Chemical: O,O-Diisopropyl
hydrogenphosphonate**

Synonym: Diisopropyl hydrogen
phosphonate
Phosphorous acid, bis(1-
methylethyl) ester
CAS No: 691-96-3
Use: Unscheduled precursor to
DIMP and Sarin

**Chemical: O,O-Diisopropyl
methylphosphonite**

Synonym: Phosphonous acid,
methyl-, di-(1-methylethyl) ester
Schedule: 2B
Use: Scheduled precursor to IMPF,
IMPC, and DIMP

**Chemical: O,O-Dimethyl methyl
phosphonite**

Synonym: Phosphonous acid,
methyl-, dimethyl ester, Dimethyl
methyl phosphonous acid
Schedule: 2B
Use: Scheduled precursor to VX

**Chemical:
O,O-Dimethylphosphonate**

See: Dimethyl phosphite

**Chemical: O,O-Dipinacolyl
methylphosphonate**

Synonym: DPMP
Phosphonic acid, methyl-,
bis(1,2,2-
trimethylpropyl) ester
Bis(1,2,2-trimethylpropyl) methyl
Phosphonate
Schedule: 2B
CAS No: 7040-58-6
Use: Scheduled precursor to and
byproduct of Chlorosoman

Chemical: O-Cyclohexanyl isopropyl phosphonofluoridate

Synonym: Isopropyl GF, I-GF Phosphonofluoridic acid (1-methylethyl), cyclohexyl ester
Schedule: 1A
Use: Toxic chemical

Chemical: O-Ethyl methyl phosphinic acid

Synonym: Ethyl methylphosphinate YL
Ethoxymethylphosphine oxide
Schedule: 2B
CAS No: 16391-07-4
Use: Scheduled precursor to VX; degradation product of QL (hydrolysis)

Chemical: O-Ethyl methylphosphonochloridite

Synonym: Ethyl methyl phosphonochloridite, Phosphonochloridous acid, methyl-, ethyl
Ethyl methylphosphonous chloride ester
Schedule: 2B
Use: Scheduled precursor to VX

Chemical: O-Ethyl methylphosphonothioic acid

See: O-Ethyl methylphosphonothiolic acid

Chemical: O-Ethyl methylphosphonothioic acid

Synonym: YLS
Ethyl ThioMPA
O-Ethyl methylphosphonothioic acid
Methylphosphonothioic acid, O-ethyl-ester
Schedule: 2B
CAS No: 18005-40-8
Use: Scheduled precursor to VX; degradation product of VX (hydrolysis)

Chemical: O-Ethyl N,N-diisopropyl phosphoramidocyanidate

Synonym: Isopropyl GA
I-GA
Phosphoramidocyanidic acid, di(1-methylethyl)-, ethyl ester
Schedule: 1A
Use: Toxic chemical

Chemical: O-Ethyl N,N-dimethyl phosphoramidochloridate

Synonym: Ethyl N,N-dimethylphosphoramidochloridate
EDMPNC
Schedule: 2B
CAS No: 2510-93-2
Use: Scheduled precursor to and byproduct of Tabun

Chemical: O-Ethyl O-2-Diisopropylaminoethyl methylphosphonothionate

Synonym: CV
O-Ethyl O-2-Diisopropylaminoethyl methylphosphonothiolate
Phosphonothioic acid, methyl-, O-(2-diisopropyl aminoethyl) O-ethyl ester
Schedule: 2B
CAS No: 71840-25-0
Use: Scheduled precursor to VX

Chemical: O-Ethyl O-2-diisopropylaminoethyl methylphosphonite

See: O-Ethyl,2-diisopropyl aminoethyl methylphosphonate

Chemical: O-Ethyl O-2-Diisopropylaminoethyl methylphosphonothiolate

See: O-Ethyl O-2-Diisopropylaminoethyl methylphosphonothionate

Chemical: O-Ethyl S-2-diisopropylaminoethyl n-propyl-phosphonothiolate

Synonym: PP-VX
Schedule: 1A
Use: Toxic chemical

Chemical: O-Ethyl, N,N-di-n-propyl phosphora midocyanidate

Synonym: Propyl GA, P-GA, Phosphoramidocyanidic acid, dipropyl-, ethyl ester, and Ethyl dipropylphosphoramidocyanidate
Schedule: 1A
Use: Toxic chemical

Chemical: O-Ethyl,2-diisopropyl aminoethyl methylphosphonate

Synonym: QL
Phosphonous acid, methyl-2-(Bis(1-methylethyl) amino) ethyl ethyl ester
O-Ethyl O-2-diisopropylaminoethyl Methylphosphonite
Schedule: 1B
CAS No: 57856-11-8
Synthesis: Diethyl methylphosphonite and KB, 2-(N,N-diethylamino)ethanol
Use: Scheduled binary precursor to VX

Chemical: O-Ethyl-N,N-dimethylphosphoramidocyanidate

See: Tabun

Chemical: O-Ethyl-O-2-iisopropylaminoethyl methylphosphonite

See: O-Ethyl,2-diisopropyl aminoethyl methylphosphonate

Chemical: O-Ethyl-S-2-diisopropylaminoethyl isopropylphosphonothiolate

Synonym: P1-VX,
Schedule: 1A
Use: Toxic chemical

Chemical: O-Ethyl-S-2-diisopropylaminoethyl methyl phosphonothiolate

See: VX

Chemical: O-Isopropyl ethylphosphonofluoridate

Synonym: GE
Phosphonofluoridic acid, ethyl-, 1-methylethyl ester
Ethylsarin
Ethyl GB
Isopropyl ethylphosphonofluoridate
Schedule: 1A
CAS No: 1189-87-3
Use: Toxic chemical

Chemical: O-Isopropyl methylphosphonochloridate

See: Chlorosarin

Chemical: O-Isopropyl methylphosphonofluoridate

Synonym: GB
Sarin
EA 1208
Schedule: 1A
CAS No: 107-44-8
Use: Toxic chemical

Chemical: O-Methyl methyl phosphonate

See: O-Methyl methylphosphonate

Chemical: O-Methyl methylphosphonate

Synonym: MMPA
Methyl methanephosphonate
Methyl methylphosphonate
Methyl methyl phosphonic acid
O-Methyl methyl phosphonate
Schedule: 2B
CAS No: 1066-53-1
Use: Scheduled precursor to DC, DIMD, and DF

Chemical: O-Mustard

Synonym: Bis(2-chloroethylthioethyl)ether
T
English Lost
T-724
Oxygen yperite
Schedule: 1A
CAS No: 63918-89-8
Synthesis: 1) bis(2-hydroxyethylthioethyl)ether and thionyl chloride; 2) bis(2-mercaptoethyl)ether and vinyl chloride; 3) thiodiglycol and bis(2-hydroxyethyl)sulfide with HCl; 4) thiodiglycol and NaOH and bis(2-chloroethyl)sulfide
Use: Toxic chemical

Chemical: O-O-diisopropyl methylphosphonate

See: DIMP

Chemical: O-Pinacolyl ethylphosphonofluoridate

Synonym: Ethylsoman
E-GD
Phosphono fluoridic acid, ethyl-, 1,2,2-trimethyl propyl ester
Ethyl GD
O-Pinacolyl
ethylphosphonofluoridate
Schedule: 1A
CAS No: 97931-20-9
Use: Toxic chemical

Chemical: O-Pinacolyl isopropyl phosphonofluoridate

Synonym: Isopropyl GD
I-GD
O-Pinacolyl
isopropylphosphonofluoridate
Phosphonofluoridic acid, (1-methylethyl)-
1,2,2-trimethylpropyl ester
Schedule: 1A
Use: Toxic chemical

Chemical: O-Pinacolyl isopropylphosphonofluoridate

See: O-Pinacolyl isopropyl phosphonofluoridate

Chemical: O-Pinacolyl methylphosphonochloridate

See: Chlorosoman

Chemical: O-Pinacolyl methylphosphonofluoridate

See: Soman

Chemical: Octafluorocyclobutane

See: Perfluoro cyclobutane

Chemical: Octafluoroisbutylene

See: PFIB

Chemical: OEDMDAI

See: O,O-Diethyl N,N-dimethylphosphoramidite

Chemical: Olefiant gas

See: Ethylene

Chemical: Orthophosphoric acid

See: Phosphoric acid

Chemical: oxiran

See: Ethylene oxide

Chemical: Oxybis(chloromethane)

See: Bis(chloromethyl)ether

Chemical: Oxygen yperite

See: O-Mustard

Chemical: P1-VX

See: O-Ethyl-S-2-diisopropylaminoethyl isopropylphosphonothiolate

Chemical: Pentachlorophosphorane

See: Phosphorus pentachloride

Chemical:
Pentachlorophosphorous

See: Phosphorus pentachloride

Chemical: Pentadiene,3-fluoro-1,4-, homopolymer

See: Polyfluoroethylenepropylene

Chemical: Pentane, 1,5-bis[(2-chloroethyl)thio]

See: 1,5-Bis(2-chloroethylthio)-n-pentane

Chemical: Pentane,1,5-dichloro

See: 1,5-Dichloro-n-pentane

Chemical: Perfluorobutylene

See: PFIB

Chemical: Perfluoro cyclobutane

Synonym: Octafluorocyclobutane
Propellant C318

R 318

r-C 318

CAS No: 115-25-3

Use: Unscheduled precursor to PFIB

Chemical: Perfluoroisbutene

See: PFIB

Chemical: Perfluoropropylene

Synonym: 1-Propene,1,1,2,3,3,3-hexafluoro-
Hexafluoropropylene

CAS No: 116-15-4

Use: Unscheduled precursor to PFIB

Chemical:
“Perren-Kinnear” complex

Schedule: 2B

CAS No: 4083-88-9

Synthesis: Phosphorous trichloride, sodium fluoride and aluminum chloride

Catalyst: Methylene chloride

Use: Scheduled precursor to Methylphosphonic dichloride

Chemical: PFIB

Synonym: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene
Perfluoroisobutylene

Perfluoroisbutene

Octafluoroisobutylene

Schedule: 2A

CAS No: 382-21-8

Synthesis: Hydrogen fluoride and polytetrafluoroethylene (PTFE)

Use: Toxic chemical

Chemical:
Phenyl magnesium bromide

Synonym: magnesium,
bromophenyl

Bromophenylmagnesium

CAS No: 100-58-3

Use: Unscheduled precursor to BZ

Chemical: Phosgene

Synonym: Carbonyl dichloride

Schedule: 3A

CAS No: 75-44-5

Synthesis: 1) carbon monoxide and chlorine; 2) diphosgene or methyl formate

Catalyst: 1) activated charcoal; 2) Michler’s ketone

Use: Scheduled precursor to Chlorosarin and Chlorosoman

Chemical: Phosphine, trichloro-

See: Phosphorus trichloride

Chemical: Phosphonic acid, bis(1-methyl ethyl) ester

See: Diisopropyl phosphonate

Chemical: Phosphonic acid, diethyl ester, sodium salt

See: Sodium O,O-diethyl phosphite

Chemical: Phosphonic acid, diisopropyl ester

See: Diisopropyl phosphonate

Chemical: Phosphonic acid, dimethyl-, sodium salt

See: Sodium dimethyl phosphonate

Chemical: Phosphonic acid, ethyl-, diethyl ester

See: Diethyl ethylphosphonate

Chemical: Phosphonic acid, ethyl-, dimethyl ester

See: Dimethyl ethylphosphonate

Chemical: Phosphonic acid, methyl-, anhydride

See: 1,2-Dimethyldiphosphonic acid

Chemical: Phosphonic acid, methyl-, bis(1,2,2-trimethylpropyl) ester

See: O,O-Dipinacolyl methylphosphonate

Chemical: Phosphono fluoridic acid, ethyl-, 1,2,2-trimethyl propyl ester

See: O-Pinacolyl ethylphosphonofluoridate

Chemical: Phosphonochloridic acid, methyl-, methylester

See: Methyl methylphosphonochloridate

Chemical: Phosphonofluoridic acid (1-methylethyl), cyclohexyl ester

See: O-Cyclohexanyl isopropyl phosphonofluoridate

Chemical: Phosphonofluoridic acid, (1-methylethyl)-

See: O-Pinacolyl isopropyl phosphonofluoridate

Chemical: Phosphonofluoridic acid, ethyl-, 1-methylethyl ester

See: O-Isopropyl ethylphosphonofluoridate

Chemical: Phosphonothioic acid, methyl

See: S-2-Diisopropylaminoethyl methylphosphonothioic acid

Chemical: Phosphonothioic acid, methyl-, O-(2-diisopropyl aminoethyl) O-ethyl ester

See: O-Ethyl O-2-Diisopropylaminoethyl methylphosphonothionate

Chemical: Phosphonothiotic dichloride, methyl

See: Methylphosphonothioic dichloride

Chemical: Phosphonous acid, methyl-

See: Bis(2-diisopropylamino ethyl) methylphosphonite

Chemical: Phosphonous acid, methyl-,

See: O-Ethyl,2-diisopropyl aminoethyl methylphosphonate

Chemical: Phosphonous acid, methyl-, di-(1-methylethyl) ester

See: O,O-Diisopropyl methylphosphonite

Chemical: Phosphonous dichloride, ethyl-

See: Ethylphosphonous dichloride

Chemical: Phosphonous, difluoride, ethyl-

See: Ethylphosphonous difluoride

Chemical: Phosphoramidic dicyanide, dimethyl

See: N,N-Dimethylphosphoramidic dicyanide

Chemical: Phosphoramidocyanidic acid, di(1-methylethyl)-, ethyl ester

See: O-Ethyl N,N-diisopropyl phosphoramidocyanidate

Chemical: Phosphoramidous acid, dimethyl-, diethyl ester

See: O,O-Diethyl N,Ndimethylphosphoramidite

Chemical: Phosphorane, tetrachloromethyl-

See: Methylphosphorus tetrachloride

Chemical: Phosphoric acid

Synonym: 3M Etching liquid
Decon 4512

EVITs
Orthophosphoric acid
Sonac
WC-Reiniger
Kefo

CAS No: 7664-38-2

Use: Unscheduled precursor to GB;
degradation product

Chemical: Phosphoric anhydride

See: Phosphorus pentoxide

Chemical: Phosphoric chloride

See: Phosphorus pentachloride

Chemical: Phosphorochloridic acid, diethyl ester

See: O,O
Diethylphosphorochloridate

Chemical: Phosphorochloridous acid, diethyl ester

See: Diethylphosphorachloridite

Chemical: Phosphorous acid, bis(1-methylethyl) ester

See: O,O-Diisopropyl hydrogenphosphonate

Chemical: Phosphorous acid, diisopropyl ester, sodium salt

See: Sodium diisopropyl phosphonate

Chemical: Phosphorous chloride

See: Phosphorus trichloride

Chemical: Phosphorous chloride (Cl₆P₂)

See: Phosphorus trichloride

Chemical: Phosphorous chloride (PCl₅)

See: Phosphorus pentachloride

Chemical: Phosphorous perchloride

See: Phosphorus pentachloride

Chemical: Phosphorus acid

See: Triethyl phosphite

Chemical: Phosphorus oxide (P₂O₅)

See: Phosphorus pentoxide

Chemical:
Phosphorus oxychloride

Synonym: Phosphorus oxytrichloride
Phosphoryl chloride

Schedule: 3B

CAS No: 10025-87-3

Synthesis: 1) phosphorus trichloride and oxygen; 2) phosphorus pentachloride and phosphorus pentoxide; 3) phosphorus ore, sulfuric acid, ammonium sulfate, and chlorine

Use: Scheduled precursor to N,Ndimethylphosphoramidic dichloride

Chemical:
Phosphorus oxytrichloride

See: Phosphorus oxychloride

Chemical:
Phosphorus pentachloride

Synonym: Pentachlorophosphorane
Pentachlorophosphorous
Phosphoric chloride
Phosphorous chloride (PCl₅)
Phosphorous perchloride

Schedule: 3B

CAS No: 10026-13-8

Synthesis: Phosphorus trichloride, chloroform, and chlorine

Use: Scheduled precursor to Mustard gas, O-Mustard, DF, and DC

Chemical:
Phosphorus pentasulfide

CAS No: 1314-80-3

Use: VG and VX

Chemical: Phosphorus pentoxide

Synonym: Phosphoric anhydride
Phosphorus oxide (P₂O₅)

CAS No: 1314-56-3

Use: Unscheduled precursor to Phosphorus oxychloride

Chemical: Phosphorus trichloride

Synonym: Phosphine, trichloro-
Phosphorous chloride (Cl₃P₂)
Phosphorous trichloride

Schedule: 3B

CAS No: 7719-12-2

Synthesis: Elemental chlorine and elemental phosphorus in the presence of previously added phosphorus trichloride

Use: Scheduled precursor to DC, Methylphosphonous dichloride, Phosphorus pentachloride, Trimethyl phosphite, Triethyl phosphite, and Diethyl phosphite

Chemical: Phosphoryl chloride

See: Phosphorus oxychloride

Chemical: Picric acid

Synonym: 1-Hydroxy-2,4,6-Trinitrobenzene
1,3,5-Trinitrophenol
Picric acid
Trinitrophenol

2,4,6-Trinitrophenol

CAS No: 88-89-1

Use: Unscheduled precursor to Chloropicrin

Chemical: Pinacol

See: 2,3-Dimethyl-2,3-butanediol

Chemical: Pinacolone

See: Pinacolone

Chemical: Pinacolone

Synonym: 3,3-Dimethyl-2-butanone
2-Butanone,3,3-dimethyl
Pinacolone

tert-Butyl methyl ketone

CAS No: 75-97-8

Use: Unscheduled precursor to Pinacolyl alcohol

Chemical: Pinacolyl alcohol

Synonym: 3,3-Dimethylbutane-2-ol
2,2-Dimethylbutan-3-ol

Schedule: 2B

CAS No: 464-07-3

Synthesis: Pinacolone and hydrogen

Use: Scheduled precursor to Soman

Chemical: Pinacone

See: 2,3-Dimethyl-2,3-butanediol

Chemical:
Polyfluoroethylenepropylene

Synonym: Pentadiene,3-fluoro-1,4-, homopolymer

Use: Unscheduled precursor to PFIB

Chemical: Polytetrafluoroethylene

Synonym: PTFE

Ethene, tetrafluoro-,homopolymer
Tetrafluoroethene homopolymer
Teflon

CAS No: 9002-84-0

Use: Unscheduled precursor to PFIB

Chemical: Potassium bifluoride

CAS No: 7789-29-9

Use: Precursor to Sarin, Soman, and GF

Chemical: Potassium cyanide

CAS No: 151-50-8

Use: Tabun and Hydrogen cyanide

Chemical: Potassium fluoride

Synonym: Potassium fluoride (KF)
Potassium monofluoride
Clocat F

CAS No: 7789-23-3

Use: Unscheduled precursor to Sarin

Chemical:
Potassium fluoride (KF)

See: Potassium fluoride

Chemical:
Potassium monofluoride

See: Potassium fluoride

Chemical: PP-VX

See: O-Ethyl S-2-diisopropylaminoethyl n-propylphosphonothiolate

Chemical: Product 39

See: N,N-dimethylphosphoramidic dichloride

Chemical: Propane, 1,3-dichloro

See: 1,3-Dichloropropane

Chemical:
Propane, 2-chloro-2-methyl

See: t-Butyl chloride

Chemical: Propellant C318

See: Perfluoro cyclobutane

Chemical: Proteins, ricins

See: Ricin

Chemical: PTFE

See: Polytetrafluoroethylene

Chemical: Pyridine, 4-methyl

See: 4-Methylpyridine

Chemical: Pyromix

See: 1,2-Dimethyldiphosphonic acid

Chemical: Q

See: Sesquimustard

Chemical: QL

See: O-Ethyl,2-diisopropyl aminoethyl methylphosphonate

Chemical: Quinuclidine-3-ol

Synonym: 3-Quinuclidinol
3-Hydroxy-azabicyclo [2.2.2]octane
3-Q azabicyclo [2.2.2]-3-octanol
Schedule: 2B

CAS No: 1619-34-7

Synthesis: 3-Quinuclidinone hydrochloride and hydrogen

Catalyst: Pt oxide

Use: Scheduled precursor to BZ and Arsenic trichloride

Chemical:
Quinuclidinone hydrochloride

See: 3-Quinuclidone hydrochloride

Chemical: Quinuclidone

See: 3-Quinuclidinone

Chemical: R 318

See: Perfluoro cyclobutane

Chemical: R 40

See: Methyl chloride

Chemical: R 50

See: Methane

Chemical: R 50 (refrigerant)

See: Methane

Chemical: R 717

See: Ammonia

Chemical: R-5

See: Lewisite 1

Chemical: R-5,150

See: Amiton

Chemical: r-C 318

See: Perfluoro cyclobutane

Chemical: RCA

See: Ricin

Chemical: Refrigerant R717

See: Ammonia

Chemical: Rhodia-6200

See: Amiton

Chemical: Ricin

Synonym: RCA
Ricin Communis Agglutin Proteins, ricins
Ricine
KCL III
KCL IV

Schedule: 1B

CAS No: 9009-86-3

Synthesis: Naturally occurring in castor bean; obtained by separation, extraction, and isolation
Catalyst: Heptane; water; sulfuric or hydrochloric acid; sodium hydroxide; sodium sulfate; and sodium chloride

Use: Toxic chemical

Chemical:
Ricin Communis Agglutin

See: Ricin

Chemical: Ricine

See: Ricin

Chemical: S

See: HN2

Chemical: S glycol

See: Methyl-diethanolamine

Chemical: S-(2-diethylamino) ethyl,phosphoro-thioic acid

See: Amiton

Chemical: S-2-(Diisopropylamino) ethyl methylphosphonothioic acid

See: S-2-Diisopropylaminoethyl methylphosphonothioic acid

Chemical: S-2-Diisopropylaminoethyl methylphosphonothioic acid

Synonym: S-2-(Diisopropylamino) ethyl methylphosphonothioic acid EA 2192 Phosphonothioic acid, methyl

Schedule: 2B

CAS No: 73207-98-4

Use: Scheduled precursor to and degradation product of VX (hydrolysis)

Chemical: S-diol

See: Methyl-diethanolamine

Chemical: Sarin

See: O-Isopropyl methylphosphonofluoridate

Chemical: Saxitoxin

Synonym: TZ

STX

[3aS-(3.alpha.,4.alpha.10aR)]2,6, Diamino-4-[[[(aminocarbonyl)oxy]

Shellfish toxin

Saxitoxin hydrate

Schedule: 1A

CAS No: 35523-89-8

Synthesis: Separated from naturally sources in shell fish and refined

Catalyst: Water; sulfuric or hydrochloric acid; ethanol or methanol

Use: Toxic chemical

Chemical: Saxitoxin hydrate

See: Saxitoxin

Chemical: Sesquimustard

Synonym: 1,2-bis(2-chloroethylthio)ethane Q

Doppel-O

Schedule: 1A

CAS No: 3563-36-8

Synthesis: 1) 2-hydroxyethanethiol and vinyl chloride; 2) 1,2-bis(2-hydroxyethylthio)ethane and HCl gas; 3) 1,2-bis(2-hydroxyethylthio) ethane and thionyl chloride; 4) 1,2-ethanedithiol and vinyl chloride; 5) 2-hydroxyethanethiol and thiodiglycol with hydrochloric acid

Use: Toxic chemical

Chemical: Shellfish toxin

See: Saxitoxin

Chemical: Silane, tetrachlo-

See: Silicon tetrachloride

Chemical: Silane, trichloro (1-chloroethenyl)-

See: 2-Chlorovinyl-trichlorosilane

Chemical: Silane, trichloro (1-chlorovinyl)-

See: 2-Chlorovinyl-trichlorosilane

Chemical: Silane, trichloro (2-chloroethenyl)-

See: Trichloro (2-chloroethenyl) silicide

Chemical: Silicic acid, tetrakis (1-methylethyl) ester

See: Tetraisopropyl orthosilicate

Chemical: Silicon (IV) chloride

See: Silicon tetrachloride

Chemical: Silicon chloride

See: Silicon tetrachloride

Chemical: Silicon tetrachloride

Synonym: Silane, tetrachlo-Silicon (IV) chloride Silicon chloride Tetrachlorosilane

CAS No: 10026-04-7

Use: Byproduct of L

Chemical: Soda ash

See: Sodium carbonate

Chemical: Sodium

Synonym: Natrium

CAS No: 7440-23-5

Use: Unscheduled precursor to Sarin

Chemical: Sodium bifluoride

Synonym: Sodium acid fluoride Sodium hydrogen fluoride

CAS No: 1333-83-1

Use: Sarin, Soman, and GF

Chemical: Sodium acid fluoride

See: Sodium bifluoride

Chemical: Sodium borohydride

Synonym: Sodium tetrahydridoborate Borate, tetrahydro-, sodium Sodium tetrahydroborate

CAS No: 16940-66-2

Use: Unscheduled precursor to BZ

Chemical: Sodium carbonate

Synonym: Carbonic acid, disodium salt

Soda ash

Solvay soda

CAS No: 497-19-8

Use: Unscheduled precursor to HN3

Chemical: Sodium cyanide

Synonym: Cymag

Natrium cyanide

Sodium cyanide (Na(CN))

Cynogran

Cyanide of Sodium

Hydrocyanic acid, sodium salt

CAS No: 143-33-9

Use: Unscheduled precursor to Tabun

**Chemical:
Sodium cyanide (Na(CN))**

See: Sodium cyanide

**Chemical:
Sodium diethyl phosphite**

See: Sodium O,O-diethyl phosphite

**Chemical:
Sodium diethoxyphosphine**

See: Sodium O,O-diethyl phosphite

**Chemical:
Sodium diisopropyl phosphite**

See: Sodium diisopropyl phosphonate

**Chemical:
Sodium diisopropyl phosphonate**

Synonym: Isopropyl sodium phosphite

Phosphorous acid, diisopropyl ester, sodium salt

Sodium diisopropyl phosphite

CAS No: 27344-79-2

Use: Unscheduled precursor to Sarin

**Chemical:
Sodium dimethyl phosphonate**

Synonym: Sodium

Dimethylphosphite

Phosphonic acid, dimethyl-, sodium salt

Sodium dimethyl phosphonic acid

Use: Unscheduled precursor to Sarin and Soman

Chemical: Sodium dimethyl phosphonic acid

See: Sodium dimethyl phosphonate

**Chemical:
Sodium dimethylphosphite**

See: Sodium dimethyl phosphonate

Chemical: Sodium fluoride

Synonym: Chemifluor

FDA 0101

Floridine

Fluorigard

Fluorol

Flursol

CAS No: 7681-49-4

Use: Unscheduled precursor to "Perren-Kinnear" complex

**Chemical:
Sodium hydrogen fluoride**

See: Sodium bifluoride

Chemical: Sodium hydroxide

Synonym: Aetznatron

Ascarite

Caustic soda

CAS No: 1310-73-1

Use: Unscheduled precursor to VX and HN2

Chemical: Sodium methoxide

See: Sodium methylate

Chemical: Sodium methylate

Synonym: Sodium methoxide

Methanol, sodium salt

CAS No: 124-41-4

Use: Reaction catalyst in production of BZ

Chemical: Sodium monosulfide

See: Sodium sulfide

**Chemical:
Sodium O,O-diethyl phosphite**

Synonym: Phosphonic acid, diethyl ester, sodium salt

Sodium diethyl phosphite

Diethyl sodium phosphite

Diethyl sodium phosphonate

Sodium diethoxyphosphine

CAS No: 118080-94-7

Use: Unscheduled precursor to Amiton

Chemical: Sodium sulfide

Synonym: Disodium monosulfide

Disodium sulfide

Sodium sulfide (Na₂S)

Sodium sulfuret

Sodium monosulfide

CAS No: 1313-82-2

Use: Unscheduled precursor to Thiodiglycol

Chemical: Sodium sulfide (Na₂S)

See: Sodium sulfide

Chemical: Sodium sulfuret

See: Sodium sulfide

**Chemical:
Sodium tetrahydridoborate**

See: Sodium borohydride

**Chemical:
Sodium tetrahydroborate**

See: Sodium borohydride

**Chemical:
Sodium tetrahydroborate**

See: Lithium aluminum hydride

Chemical: Solmethine

See: Methylene dichloride

Chemical: Solvy soda

See: Sodium carbonate

Chemical: Soman

Synonym: O-Pinacolyl methylphosphonofluoridate GD

Schedule: 1A

CAS No: 96-64-0

Synthesis: DC, hydrogen fluoride, and pinacolyl alcohol

Catalyst: Tributylamine as a stabilizer

Use: Toxic chemical

Chemical: Sonac

See: Phosphoric acid

Chemical: Spirit of Hartshorn

See: Ammonia

Chemical: STX

See: Saxitoxin

Chemical: Sulfinyl chloride

See: Thionyl chloride

Chemical: Sulfinyl dichloride

See: Thionyl chloride

Chemical: Sulfur

Synonym: Atomic sulfur

Sulphur

Agri-sul

Asulfa-supra

Bisulfoid

Cosan 80

CAS No: 7704-34-9

Use: Unscheduled precursor to HD and VX; byproduct of HD

Chemical: Sulfur oxochloride

See: Thionyl chloride

Chemical: Sulfur chloride

See: Sulfur monochloride

Chemical: Sulfur chloride oxide

See: Thionyl chloride

Chemical: Sulfur dichloride

Synonym: Chlorine sulfide

Dichlorosulfane

Monosulfur dichloride

Schedule: 3B

CAS No: 10545-99-0

Synthesis: Sulfur monochloride and chlorine

Catalyst: Iron, antimony, or aluminum chloride

Use: Scheduled precursor to Mustard gas and Thionyl chloride

Chemical: Sulfur monochloride

Synonym: Sulfur chloride

Disulfur dichloride

Sulfur subchloride

Thiosulfurous dichloride

Schedule: 3B

CAS No: 10025-67-9

Synthesis: 1) sulfur and chlorine; 2) carbon disulfide and chlorine, nitrogen

Catalyst: iron filings, iodine, or ferric chloride

Use: Scheduled precursor to Mustard gas, Lewisite 1, Arsenic trichloride, and Thionyl chloride

Chemical: Sulfur monochloride

Synonym: Sulfur chloride

CAS No: 10025-67-9

Use: Sulfur mustard

Chemical: Sulfur subchloride

See: Sulfur monochloride

Chemical: Sulfurous dichloride

See: Thionyl chloride

Chemical: Sulfurous oxochloride

See: Thionyl chloride

Chemical: Sulfuryl chloride

CAS No: 7791-25-5

Use: Unscheduled precursor to Sarin and HD

Chemical: Sulphur

See: Sulfur

Chemical: Sulphuret of carbon

See: Carbon disulfide

Chemical: SWS

See: Methylphosphonothioic dichloride

Chemical: T

See: O-Mustard

Chemical: T-1790

See: HN1

Chemical: T-724

See: O-Mustard

Chemical: t-Butyl chloride

Synonym: tert-Butyl chloride

2-Chloro-2-methyl propane

Propane, 2-chloro-2-methyl

CAS No: 507-20-0

Use: Unscheduled precursor to Pinacolyl alcohol

Chemical: T9

See: HN3

Chemical: Tabun

Synonym: O-Ethyl N,N-dimethylphosphoramidocyanidate GA

Schedule: 1A

CAS No: 77-81-6

Synthesis: N,N-dimethylphosphoramidic dichloride and sodium cyanide

Use: Toxic chemical

Chemical: TBA

See: HN3

Chemical: Tedegyl

See: Bis(2-hydroxyethyl)sulfide

Chemical: Teflon

See: Polytetrafluoroethylene

Chemical: tert-Butyl chloride

See: t-Butyl chloride

Chemical: tert-Butyl methyl

keytone

See: Pinacolone

Chemical: Tetrachloromethylphosphorane

See: Methylphosphorus tetrachloride

Chemical: Tetrachlorosilane

See: Silicon tetrachloride

Chemical: Tetrafluoroethene homopolymer

See: Polytetrafluoroethylene

Chemical: Tetrafluoroethylene

Synonym: Ethane, tetrafluoro-Tetrafluoroethylene monomer
CAS No: 116-14-3

Use: Unscheduled precursor to PFIB

Chemical: Tetrafluoroethylene monomer

See: Tetrafluoroethylene

Chemical: Tetraisopropyl orthosilicate

Synonym: Silicic acid, tetrakis (1-methylethyl) ester

CAS No: 1992-48-9

Use: Unscheduled precursor to Sarin and Soman

Chemical: Tetram

See: Amiton

Chemical: Tetramethylethylene glycol

See: 2,3-Dimethyl-2,3-butanediol

Chemical: Thiodiethylene glycol

See: Thiodiglycol

Chemical: Thiodiglycol

See: Bis(2-hydroxyethyl)

Chemical: Thionyl chloride

Synonym: Sulfurous oxychloride
Sulfurous dichloride

Sulfinyl chloride

Sulfur chloride oxide

Thionyl dichloride

Sulfur oxychloride

Sulfinyl dichloride

Schedule: 3B

CAS No: 7719-09-7

Synthesis: Sulfur monochloride and sulfur dichloride

Catalyst: Activated carbon; iron chloride

Use: Scheduled precursor to Mustard gas, Lewisite 1, HN1, DC, and Arsenic trichloride

Chemical: Thionyl dichloride

See: Thionyl chloride

Chemical: Thiosulfurous dichloride

See: Sulfur monochloride

Chemical: TR

See: Diethyl methylphosphonite

Chemical: Tributylamine

Synonym: 1-Butanamine
N,N-Dibutyl-

N,N-Dibutyl-1-butanamine

CAS No: 100-82-9

Use: Stabilizer for Soman

Chemical: Trichloro (1-chloroethenyl) silane

See: 2-Chlorovinyl-trichlorosilane

Chemical: Trichloro (2-chloroethenyl) silane

See: Trichloro (2-chloroethenyl) silicide

Chemical: Trichloro (2-chloroethenyl) silicide

Synonym: Silane, trichloro (2-chloroethenyl)-
Trichloro (2-chloroethenyl) silane

CAS No: 690-18-6

Use: Unscheduled precursor to L1-3

Chemical: Trichloroarsine

See: Arsenic trichloride

Chemical: Trichloronitromethane

See: Chloropicrin

Chemical: Triethanol ammonium chloride

See: Triethanolamine hydrochloride (HN-3)

Chemical: Triethanolamine

Synonym: Tris(2-hydroxyethyl)amine
2,2,2-Nitrioltriethanol
Trolamine

Schedule: 3B

CAS No: 102-71-6

Synthesis: Ethylene oxide and ammonia

Use: Scheduled precursor to HN3

Chemical: Triethanolamine hydrochloride (HN-3)

Synonym: Triethanolamine hydrochloride acid salt
Triethanol ammonium chloride
Tris(2-hydroxyethyl) amine hydrochloride
Ethanol, 2,2',2", -nitrioltris-, hydrochloride

CAS No: 637-39-8

Use: Nitrogen mustard

Chemical: Triethanolamine hydrochloride acid salt

See: Triethanolamine hydrochloride (HN-3)

Chemical: Triethyl ester

See: Triethyl phosphite

Chemical: Triethyl phosphite

Synonym: Phosphorus acid Triethyl ester

Schedule: 3B

CAS No: 122-52-1

Synthesis: Ethanol and phosphorus oxychloride

Catalyst: Diethylaniline or petroleum ether

Use: Scheduled precursor to DMMP

Chemical: Triethylamine, 2-chloro-, hydrochloride

See: (N,N-diethylamino) ethyl chloride hydrochloride

Chemical: Trimethyl ester

See: Trimethyl phosphite

Chemical: Trimethyl phosphite

Synonym: Trimethyl ester

Schedule: 3B

CAS No: 121-45-9

Synthesis: Phosphorus trichloride and methanol

Catalyst: Diethylaniline, petroleum ether

Use: Scheduled precursor to DMMP

Chemical: Trimethylene dichloride

See: 1,3-Dichloropropane

Chemical: Trimethylethylene

See: 2-Methyl-2-butane

Chemical: Trinitrophenol

See: Picric acid

Chemical: Triphenylcarbinol

Synonym: Trityl alcohol
Benzenemethanol, alpha-diphenyl-Triphenylmethanol
Tritanol

CAS No: 76-84-6

Use: Stabilizer for HN2 and HN3

Chemical: Triphenylmethanol

See: Triphenylcarbinol

Chemical: Tris(.beta.-chloroethyl) amine hydrochloride

See: Tris(2-chloroethyl) amine hydrochloride

Chemical: Tris(2-hydroxyethyl) amine hydrochloride

See: Triethanolamine hydrochloride (HN-3)

Chemical: Tris(2-chloroethyl) amine hydrochloride

Synonym: Tris(.beta.-chloroethyl) amine hydrochloride
2-Chloro-N,N-bis(2-chloroethyl) ethanamine hydrochloride
Ethanamine, 2-chloro-N,N-bis(2-chloroethyl)

CAS No: 817-09-4

Use: Unscheduled precursor to HN3

Chemical: Tris(2-chloroethyl)amine

See: HN3

Chemical: Tris(2-chlorovinyl)arsine

See: Lewisite 3

Chemical: Tris(2-hydroxyethyl)amine

See: Triethanolamine

Chemical: Tritanol

See: Triphenylcarbinol

Chemical: Trityl alcohol

See: Triphenylcarbinol

Chemical: Trolamine

See: Triethanolamine

CWC CHEMICALS

Chemical: TRS

See: O,O Diethyl methylphosphonothionate

Chemical: TZ

See: Saxitoxin

Chemical: VCL

See: Vinyl chloride

Chemical: VCM

See: Vinyl chloride

Chemical: Vinyl chloride

Synonym: Chloroethylene

1-Chloroethylene
Chloroethene VCL
Monochloroethylene
VCL
VCM

CAS No: 75-01-4

Use: Unscheduled precursor to QT

Chemical: Vinyl sulfide

See: Divinyl sulfide

Chemical: Vinylene

See: Acetylene

Chemical: Vinylsulfanylene

See: Divinyl sulfide

Chemical: VX

Synonym: O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate

Schedule: 1A

CAS No: 50782-69-9

Synthesis: QL and sulfur

Use: Toxic chemical

Chemical: WC-Reiniger

See: Phosphoric acid

Chemical: Yellow cross

See: See Bis(2-chloroethyl)sulfide

Chemical: YL

See: O-Ethyl methyl phosphinic acid

Chemical: YLS

See: O-Ethyl methylphosphonothioic acid

Chemical: Yperite

See: Bis(2-chloroethyl)sulfide

CAS No	Chemical	CAS No	Chemical
50-00-0	Formaldehyde	102-71-6	Triethanolamine
51-75-2	HN2	105-59-9	Methyl diethanolamine
55-22-1	Isonicotinic acid	107-07-3	2-Chloroethanol
60-24-2	2-Hydroxyethanethiol	107-16-4	Hydroxyacetoneitrile
64-17-5	Ethanol	107-31-3	Methyl formate
67-56-1	Methanol	107-44-8	O-Isopropyl methylphosphonofluoridate
67-63-0	Isopropanol		2-(N,N-Dimethylamino) ethyl chloride
74-82-8	Methane	107-99-3	Diisopropylamine
74-85-1	Ethylene		4-Methylpyridine
74-86-2	Acetylene	108-18-9	Diethylamine
74-87-3	Methyl chloride	109-89-4	Diethanolamine
74-88-4	Methyl iodide	109-89-7	Diethylene glycol
74-89-5	Methylamine	111-42-2	Bis(2-hydroxyethyl)sulfide
74-90-8	Hydrogen cyanide	111-46-6	Perfluoro cyclobutane
75-01-4	Vinyl chloride	111-48-8	Tetrafluoroethylene
75-04-7	Ethylamine	115-25-3	Perfluoropropylene
75-05-2	Methylene chloride	116-14-3	Benzoin
75-09-2	Methylene dichloride	116-15-4	Trimethyl phosphite
75-15-0	Carbon disulfide	119-53-9	Triethyl phosphite
75-21-8	Ethylene oxide	121-45-9	Dimethylamine
75-44-5	Phosgene	122-52-1	Sodium methylate
75-83-2	2,2-Dimethylbutane	124-40-3	Benzil
75-97-8	Pinacolone	124-41-4	Ethyldiethanolamine
76-06-2	Chloropicrin	134-81-6	Ethanolamine
76-09-5	2,3-Dimethyl-2,3-butanediol	139-87-7	Mesityl oxide
		141-43-5	1,3-Dichloropropane
76-84-6	Triphenylcarbinol	141-79-7	Sodium cyanide
76-89-1	Methyl benzilate	142-28-9	Potassium cyanide
76-93-7	2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid)	143-33-9	PFIB
		151-50-8	Ethylphosphonous difluoride
77-81-6	Tabun	382-21-8	Pinacolyl alcohol
78-38-6	Diethyl ethylphosphonate	430-78-4	Sodium carbonate
78-53-5	Amiton	464-07-3	Diphosgene
88-89-1	Picric acid	497-19-8	Bis(2-chloroethyl)sulfide
96-64-0	Soman	503-38-8	Dimethylamine HCl
96-79-7	N,N-Diisopropyl-(beta)-aminoethyl chloride	505-60-2	Cyanogen bromide
		506-59-2	Cyanogen chloride
96-80-0	N,N-Diisopropyl-(beta)-aminoethanol	506-68-3	t-Butyl chloride
		506-77-4	2-Methyl-2-butane
100-35-6	2-(N,N-Diethylamino)ethyl chloride	507-20-0	1,2-Bis(2-hydroxyethylthio)ethane
		513-35-9	HN1
100-38-9	N,N-Diethylaminoethanethiol	524-43-8	1,2-Ethanedithiol
		538-07-8	Lewisite 1
100-58-3	Phenyl magnesium bromide	540-63-6	
100-82-9	Tributylamine	541-25-3	

CAS No	Chemical	CAS No	Chemical	CAS No	Chemical	CAS No	Chemical
542-88-1	Bis(chloromethyl)ether	1193-65-3	3-Quinuclidinone	6581-11-1	BZ	35523-89-8	Saxitoxin
555-77-1	HN3		hydrochloride	6996-81-2	O,O Diethyl	36716-60-6	2-(N,N-Dipropylamino)
589-57-1	Diethylphosphorochloridite	1310-73-1	Sodium hydroxide		methylphosphonothionate		ethyl chloride
627-51-0	Divinyl sulfide	1313-82-2	Sodium sulfide	7040-57-5	Chlorosoman	40334-69-8	Lewisite 2
628-76-2	1,5-Dichloro-n-pentane	1314-56-3	Phosphorus pentoxide	7040-58-6	O,O-Dipinacolyl	40334-70-1	Lewisite 3
637-39-8	Triethanolamine	1314-80-3	Phosphorus pentasulfide		methylphosphonate	40881-98-9	N,N
	hydrochloride (HN-3)	1333-83-1	Sodium bifluoride	7426-02-0	Bis(2-		Dipropylphosphoramidic
676-83-5	Methylphosphonous	1445-75-6	DIMP		hydroxyethylthioethyl)ether		dichloride
	dichloride	1445-76-7	Chlorosarin	7440-23-5	Sodium	44860-68-6	Bis(2-
676-97-1	Methylphosphonyl	1498-40-4	Ethylphosphonous	7446-70-0	Aluminum chloride		hydroxyethylthio)methane
	dichloride		dichloride	7447-39-4	Cupric chloride	50782-69-9	VX
676-98-2	Methylphosphonothioic	1570-45-2	Ethyl isonicotinate	7487-94-7	Mercuric chloride	57856-11-8	O-Ethyl,2-diisopropyl
	dichloride	1619-34-7	Quinuclidine-3-ol	7647-01-0	Hydrochloric acid (HCl)		aminoethyl
676-99-3	Methylphosphonyl	1627-53-3	Arsenic trioxide	7664-38-2	Phosphoric acid		methylphosphonate
	difluoride	1809-20-7	Diisopropyl phosphonate	7664-39-3	Hydrogen fluoride	57856-12-9	Bis(2-diisopropylamino
677-43-0	N,N	1809-20-9	DIHP	7664-41-7	Ammonia		ethyl) methylphosphonite
	Dimethylphosphoramidic	1838-39-7	1-Carboxymethyl-4-	7681-49-4	Sodium fluoride	63869-13-6	Bis(2-
	dichloride		carboxypiperidine	7704-34-9	Sulfur		chloroethylthio)methane
690-18-6	Trichloro (2-chloroethenyl)	1992-48-9	Tetraisopropyl orthosilicate	7719-09-7	Thionyl chloride	63905-10-2	1,3-Bis(2-chloroethylthio)
	silicide	2404-03-7	Diethyl N,N-dimethyl	7719-12-2	Phosphorus trichloride		npropane
691-96-3	O,O-Diisopropyl		phosphoramidate	7782-50-5	Chlorine	63918-89-8	O-Mustard
	hydrogenphosphonate	2441-27-2	2-Chlorovinyl-trichlorosilane	7784-34-1	Arsenic trichloride	63918-90-1	Bis(2-
753-59-3	Methylphosphonous	2510-93-2	O-Ethyl N,N-dimethyl	7789-23-3	Potassium fluoride		chloroethylthiomethyl)ether
	difluoride		phosphoramidochloridate	7789-29-9	Potassium bifluoride	71840-25-0	O-Ethyl O-2-
753-98-0	Ethylphosphonyl	2524-04-1	O,O-Diethyl	7791-25-5	Sulfuryl chloride		Diisopropylaminoethyl
	difluoride		phosphorothionochloridate	9002-84-0	Polytetrafluoroethylene		methylphosphonothionate
756-79-6	Dimethyl	2625-76-5	2-	9009-86-3	Ricin	73207-98-4	S-2-Diisopropylaminoethyl
	methylphosphonate		Chloroethylchloromethylsulfide	10025-67-9	Sulfur monochloride		methylphosphonothioic
762-04-9	Diethyl phosphite	2632-87-3	O,O-Diethyl N,N	10025-67-9	Sulfur monochloride sulfur		acid
814-49-3	O,O		dimethylphosphoramidite		chloride	97931-20-9	O-Pinacolyl
	Diethylphosphorochloridate	2725-68-0	Methylphosphorus	10025-87-3	Phosphorus oxychloride		ethylphosphonofluoridate
817-09-4	Tris(2-chloroethyl) amine		tetrachloride	10026-04-7	Silicon tetrachloride	118080-94-7	Sodium O,O-diethyl
	hydrochloride	3238-75-3	2-(N,N-Dipropylamino)	10026-13-8	Phosphorus pentachloride		phosphite
868-85-9	Dimethyl phosphite		ethanol	10545-99-0	Sulfur dichloride	135469-38-4	3,3-Diemethylbutane-2-
869-24-9	(N,N-diethylamino) ethyl	3554-74-3	3-Hydroxy-1	15715-41-0	Diethyl methylphosphonite		sulfonic acid
	chloride hydrochloride		methylpiperdine	16260-48-3	1,3-Bis(2-hydroxyethylthio)-	142868-93-7	1,4-Bis(2-chloroethylthio)
1002-41-1	Bis(2-chloroethyl)	3563-36-8	Sesquimustard		n-propane		nbutane
	disulfide	3731-38-2	3-Quinuclidinone	16391-07-4	O-Ethyl methyl phosphinic	142868-94-8	1,5-Bis(2-chloroethylthio)
1066-50-8	Ethylphosphonic	4083-88-9	"Perren-Kinnear" complex		acid		npentane
	dichloride	4261-68-1	2-(N,N-Diisopropylamino)	16853-85-3	Lithium aluminum hydride		
1066-52-0	Methyl		ethyl chloride hydrochloride	16940-66-2 S	odium borohydride		
	methylphosphonochloridate	4535-86-8	(N,N-Dipropylamino) ethyl	18005-40-8	O-Ethyl		
1066-53-1	O-Methyl		chloride hydrochloride		methylphosphonothiolic		
	methylphosphonate	4584-46-7	(N,N-Dimethylamino) ethyl		acid		
1070-90-2	1,2-Dimethyldiphosphonic		chloride hydrochloride	23306-80-1	N,N-Diisopropyl		
	acid	5842-07-9	N,N		phosphoramidic dichloride		
1189-87-3	O-Isopropyl		Diisopropylaminoethanethiol	27344-79-2	Sodium diisopropyl		
	ethylphosphonofluoridate	6163-75-3	Dimethyl ethylphosphonate		phosphonate		

LIST OF ABBREVIATIONS

(EXCLUDING CHEMICAL NAMES)

CAS	Chemical Abstracts Service
CWC	Chemical Weapons Convention
DTIRP	Defense Treaty Inspection Readiness Program
DTRA	Defense Threat Reduction Agency
EIF	Entry Into Force

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Tri-fold Brochure

NOTES
